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ABSTRACT

This report presents findings of a June 1998 survey of computing officials at 1,623 two- and four-year U.S. colleges and universities concerning the use of computer technology. The survey found that computing and information technology (IT) are now core components of the campus environment and classroom experience. However, key aspects of IT planning and infrastructure remain issues; these include strategic and financial planning for IT; curriculum integration; and providing adequate user support. Other findings indicate: 44.4 percent of classes are using e-mail; 33.1 percent are using Internet resources as a syllabus component; 45.1 percent of undergraduates and 51.6 percent of faculty use the Internet at least once a day; 45.8 percent of campuses report a mandatory student technology fee; 5 percent have mandatory student purchase requirements; there is an average of one IT support person per 180 students; 70 percent do not see Y2K problems as serious; IT is rarely a factor in personnel reviews; few campuses have policies regarding intellectual property on the World Wide Web; and far more schools are using the Web to provide access to various campus resources and services than in previous surveys. Fifteen tables detail the survey's findings. Appendices explain methodology, present the questionnaire, and list participating institutions. (DB)

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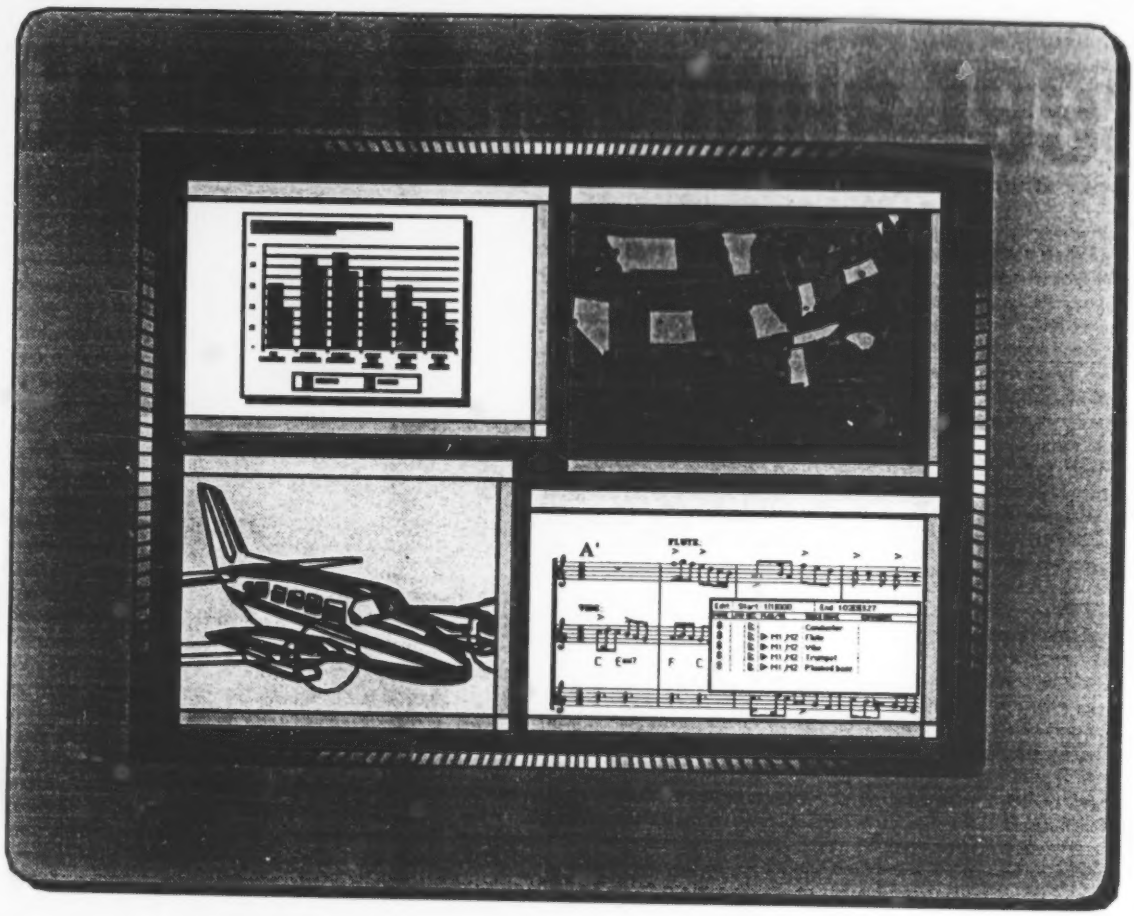
CAMPUS COMPUTING 1998

The Ninth National Survey of Desktop Computing and Information Technology in Higher Education



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CAMPUS COMPUTING, 1998

The Ninth National Survey of Desktop Computing and Information Technology in American Higher Education

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February, 1999

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THE CAMPUS COMPUTING PROJECT

Begun in 1990, the Campus Computing Project is the largest continuing study of the role of computers and information technology in American higher education.

The 1998 National Survey of Desktop Computing and Information Technology in American Higher Education was supported, in part, by grants from the following corporate sponsors: Apple Computer, Cisco Systems, Collegis, Compaq Computer Corp., Course Technology/ITP, Dell Computer Corp., Eastman Kodak Company, Follett Corp., Harcourt Brace Publishers, Hewlett-Packard, IBM, Intel, KPMG Peat Marwick LLP, Lucent Technologies, Lotus Development Corp., Macromedia, McGraw-Hill, Microsoft Corp., National Education Association, Netscape Communications, PeopleSoft, Prentice Hall/Simon and Schuster, Real Education, SCT Corp., The Software Publishers Association, Sun Microsystems, Symantec Corp., and Toshiba North America.

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Past (out-of-print) editions of the annual Campus Computing Survey Report (1990-1996) are available from the ERIC Clearinghouse Service on microfiche. See also the *AskERIC* WWW site sponsored by the United States Department of Education and the ERIC Clearinghouse on Science and Technology at Syracuse University (http://ericir.syr.edu) or the ERIC Clearinghouse on Higher Education at The George Washington University (http://www.eriche.org).

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CAMPUS COMPUTING, 1998

The 1998 National Survey of Desktop Computing and Information Technology in American Higher Education

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CAMPUS COMPUTING, 1998

The 1998 National Survey of Desktop Computing and Information Technology in American in Higher Education

The Campus Computing Survey, now in its ninth year, is the largest continuing study of the use of information technology in American higher education. The 1998 Campus Computing Survey was conducted during Summer, 1998.[1] The survey results presented here summarize data from two and four-year public and private colleges and universities in the United States.[2]

The annual Campus Computing Project survey focuses on *academic computing*, i.e., the use of computing and information technology resources to support and enhance instruction and scholarship. The survey does not address the role of computing in academic administration (e.g., budgeting, registration, financial management, or student records). The survey respondents, typically the chief academic computing or information technology officers at their institutions, are individuals specifically responsible for and knowledgeable about the current direction of technology planning, policy, and implementation efforts on their campuses.

The 1998 surveys were mailed in June, 1998 to the chief academic computing officer at 1,623 two- and four-year colleges and universities across the United States. Where it was not possible to identify a specific individual with an academic computing title, the survey was sent to the senior academic officer. (Additional information about the survey methodology is provided in Appendix A.)

The 1998 Survey Results

The 1998 survey data confirm that computing and information technology are now core components of the campus environment and classroom experience. Today, students of all ages and across all fields come to two- and four-year colleges and universities in the United States expecting to *learn about* and also to *learn with* technology.

However, data from the 1998 Campus Computing survey reveal that across all sectors of the higher education landscape, institutions continue to struggle with key aspects of IT planning and infrastructure: developing a strategic and a financial plan for IT, planning curriculum integration, and providing adequate user support.

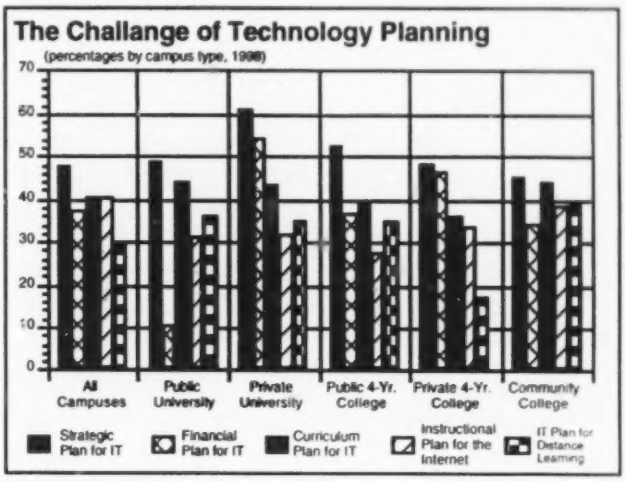

Figure 1
IT Planning in US Colleges and Universities (percentages)

Indeed, roughly two decades after the first microcomputers arrived on college campuses, American colleges and universities experience computer and information technology (IT) planning as a continuing challenge. As shown in Figure 1, just under half of US colleges have a strategic plan for information technology. Concurrently, more than 60 percent do not have an IT financial plan or a curriculum plan for the role of Information Technology. Moreover, only two-fifths have an instructional plan for using the Internet, less than a third have a plan for using the Internet in their distance learning initiatives, and only a fourth have a campus policy regarding intellectual property for WWW-based instructional resources developed by faculty.

Although the absolute numbers on IT planning vary across institutional sectors, the pattern, as shown in Figure

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[1]The 1998 National Survey of Desktop Computing in Higher Education was supported, in part, by grants from the following corporate sponsors: Apple Computer, Cisco Systems, Collegis, Compaq Computer Corp., Course Technology, Dell Computer Corp., Eastman Kodak Company, Follett Corp., Harcourt Brace Publishers, Hewlett-Packard, IBM, Intel, KPMG Peat Marwick, Lucent Technologies, Lotus Development Corp., Macromedia, McGraw-Hill, Microsoft Corp., Prentice Hall/Simon and Schuster, Netscape Communications, PeopleSoft, Real Education, Software Publishers Association, Sun Microsystems, Symantec Corp., and Toshiba North America.

[2]More than 100 private two-year colleges were included in the survey mailing. However, the low response rate from this group should not be viewed as being representative of the larger population of more than 250 private two-year colleges in the United States.

1, are consistent: for most campuses in most sectors of American higher education, IT planning poses major institutional challenges.

These planning challenges are reflected in the issues that the 1998 survey respondents identify as the top IT issues confronting their institutions. Again this year, one-third of the respondents (33.3 percent) report that "assisting faculty integrate technology into instruction" is the single most important IT issue confronting their institution over the next two-three years, followed by "providing adequate user support" (26.5 percent); IT financial planning ranked third at 17.1 percent. Only 4.3 percent of the respondents identify Y2K problems as the most important IT issue facing their institutions.

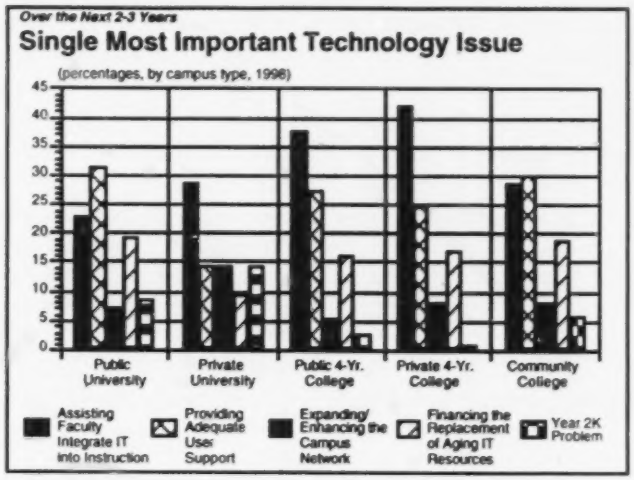

FIGURE 1
IT Planning in US Colleges and Universities (percentages)

IT in Instruction

Not surprisingly, the 1998 survey data reveal that more college courses are using more technology. The percentage of classes using e-mail jumped by a third this year to 44.4 percent, up from 32.8 percent in 1997, 25.0 percent in 1996 and just 8.0 percent in 1994. One-third (33.1 percent) of all college courses are tapping into Internet resources as a component of the syllabus, compared to one-fourth (24.8 percent) last year and just 15.3 percent in 1996. And almost one-fourth (22.5 percent) of all college courses are using "WWW pages for class materials and resources," compared to just 8.4 percent in 1996 and 4.0 percent in 1994.

The rising use of IT resources in instruction occurs across all sectors of higher education. As shown in Figures 3 and 4, while the level of IT utilization varies across institutional types (e.g. research universities vs. community colleges) the trend – clear and striking gains in the use of IT resources in instruction – is consistent: across all sectors of the campus community, there is more technology in the college curriculum and course syllabus.

For example, among public research universities, the percentage of courses using e-mail grew by more than a factor of five between 1994 and 1998, rising to 56 percent in 1998 (Figure 3). In contrast, although the percentage of courses using e-mail in public two-year institutions is less than half that for public research universities (56.0 vs. 26.4 percent), the use of e-mail in community college classes is up by a factor of 13 during this period, rising from 2.0 percent in 1994.

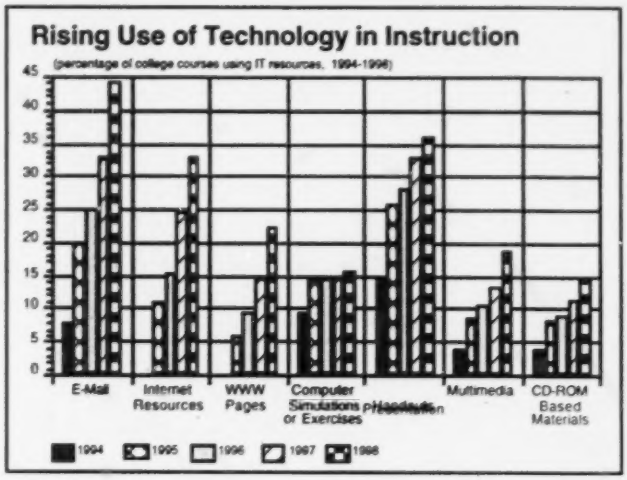

FIGURE 2
Percentage of Courses Using IT Resources, 1998

Similarly, while the use of WWW resources varies across campuses, the rate of increase between 1995 and 1998 has been dramatic in all sectors (Figure 4). The largest gains occur in research universities, where the percentage of classes with WWW pages rose by 300 percent in public research universities, and grew almost 500 percent in private research universities. The increases in other sectors, while smaller, are striking and significant.

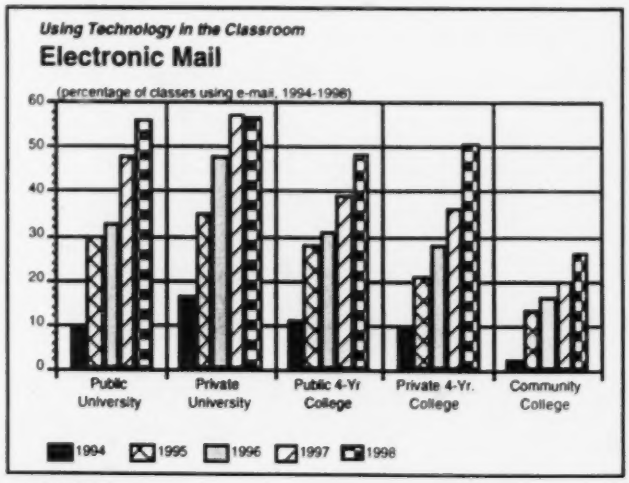

FIGURE 3
The Rising Use of E-Mail in College Courses (percentages)

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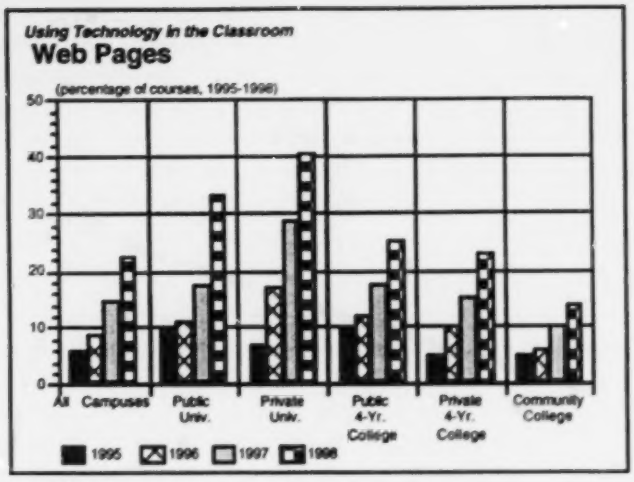

FIGURE 4
College Classes That Have WWW Pages (percentages)

Students and Faculty on the WWW

Many observers assume that today's college students may be more "wired" than their professors. However, a new item on the 1998 survey suggests that faculty are more likely make daily use the Internet and WWW than their students. The 1998 survey respondents estimate 45.1 percent of their undergraduates use the Internet at least once a day, compared to 51.6 percent of their faculty (Figure 5). The daily use numbers are highest for students and faculty in public and private research universities and private four-year colleges (over half for both groups in all three sectors). In contrast, less than a third (29.1 percent) of the students and two-fifths (40.1 pct.) of the faculty in community colleges have daily contact with the Internet and WWW.

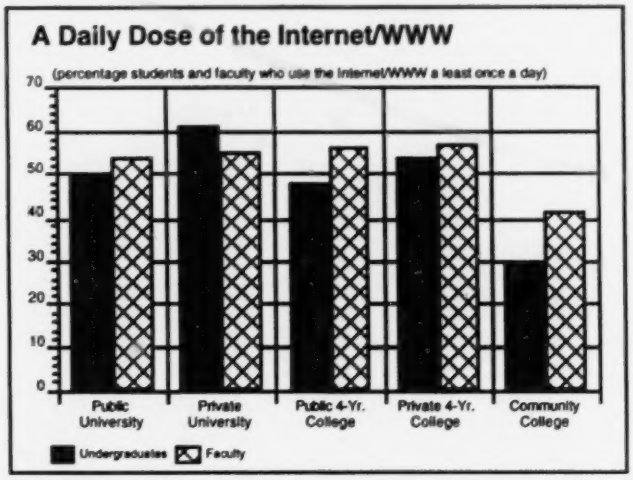

FIGURE 5
Daily Use of the WWW by Students and Faculty (percentages)

The data on daily Internet use are interesting for several reasons. First, these numbers document the widespread assumption that large numbers of students and faculty routinely use the Internet. Second, unlike other "knowledge workers" whose work activities are typically tied to an individual desk or office, students and faculty are a more mobile population: they spend a large part of their working day in multiple locations such as dormitories, libraries, science labs, computer centers, and classrooms, and also at off-campus residences. In this context, the 1998 survey data suggest that compared to other "wired workers," students and faculty appear to make an extra effort to get their "daily dose" of the Internet and WWW.

More Colleges Impose IT Fees

The 1998 data reveal that more campuses are using student fees to help cover rising IT costs. This year almost half (45.8 pct.) of the institutions participating in the Campus Computing Survey report a mandatory student technology fee, up from 38.5 percent in 1997 and 28.3 percent in 1995. Although the number of public institutions imposing mandatory IT fees is rising, the average annual fee has remained fairly stable among public four-year universities ($140), and declined in public four year colleges (from $131 in 1997 to $106 in 1998). In community colleges, however, the average annual IT fee rose by one-third, from $55 to $72 over the past year.

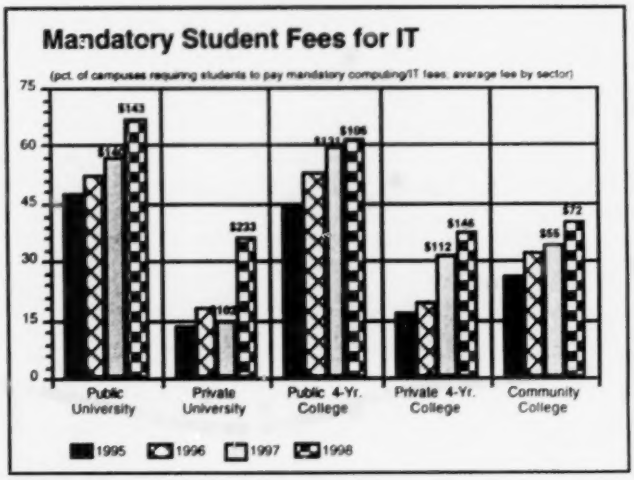

FIGURE 6
Mandatory Student Technology Fees, 1995-1998 (percentages)

Among private institutions, the percentage of research universities with a required IT fee more than doubled, rising to 36.4 percent in 1998, compared to 15.0 pct. in 1997. Moreover, the average IT fee at private research universities more than doubled during this period, jumping from $112 in 1997 to $233 in 1998. Similarly, the past year witnessed new fees at more private four-year colleges (37.4 percent, up from 31.7 pct. in 1997), while the

average IT fee in this sector increased by almost a third, rising to $146 in 1998 from $112 in 1997.

Without question, rising IT fees reflect the continuing financial challenges colleges confront in attempting to provide more and better IT resources and services for students and faculty. Yet campus officials must avoid the temptation to use student fees to supplant, rather than supplement, the institutional investment in IT. This is a particularly pressing issue for public institutions, as state officials may be tempted to have students cover a larger share of rising institutional IT costs. Indeed, from almost any perspective, it is clear that computer networks, user support services, software and content licenses, computer labs, and instructional classrooms are key components of the campus technology infrastructure: these core IT resources need more than just student fees to be viable and reliable.

Mandatory Computer Purchases

The recent, widely publicized student access initiatives underway at the University of Florida and the University of North Carolina, Chapel Hill prompt continuing discussion across the campus community about the actual number of colleges and universities that require all undergraduates to own a computer. Indeed, UNC and Florida join a small but increasingly visible group of institutions such as Dartmouth College, Hartwick College (NY), the University of Minnesota at Crookston, Mayville State and Valley City State Universities in North Dakota, and Wake Forest University (NC), among others, that have mandatory student purchase initiatives.

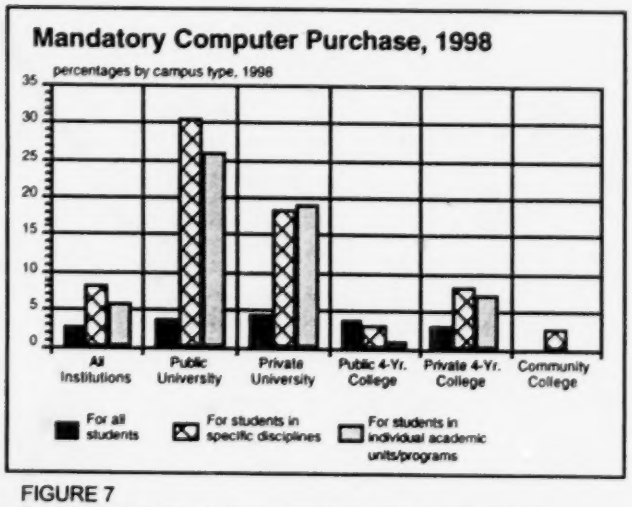

FIGURE 7
Requiring Students to Own Computers, 1998 (percentages)

Although the number of institutions evaluating the costs and benefits of mandatory purchase programs is growing, the 1998 survey data reveal that comparatively few institutions currently require *all* undergraduates to own a computer. Overall, less than five percent of campuses participating in the 1998 survey have mandatory student purchase initiatives (Figure 7). More common, however, are mandatory computer requirements that apply to students in specific academic disciplines or programs, such as business, computer science, engineering, law, or medicine.

User Support

Ample evidence from the 1998 survey highlights the rising campus concern about user support issues. As noted above, Figure 1 reveals that survey respondents identify instructional integration and user support as the top IT challenges confronting institutions over the next two-three years. As shown below in Figure 8, survey respondents place a very high priority on user support and training, ranking it ahead of replacing aging hardware, replacing aging software, and providing Internet/WWW training for faculty.

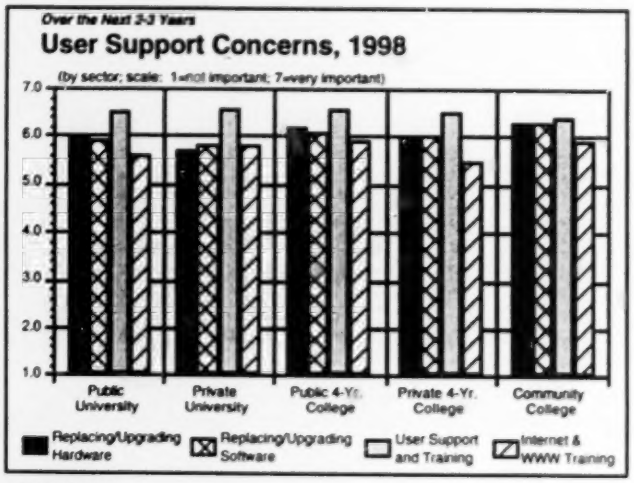

FIGURE 8
User Support Concerns, 1998 (percentages)

Moreover, as shown in Figure 9, survey respondents across all sectors rank the quality of user support *below* other components of the campus IT infrastructure such as campus networks, campus telephone systems, and online library resources, and about the same as "internet resources for instruction."

The actual scores on user support, hovering around 4.5 on a 7 point scale (1=poor; 7=excellent) suggest that survey respondents believe their institutions are doing "okay" in their efforts to address IT support issues. Yet "okay" may be a relative measure, suggesting barely adequate levels of user support given both growing demand and rising expectations from students, faculty, administrators, and staff.

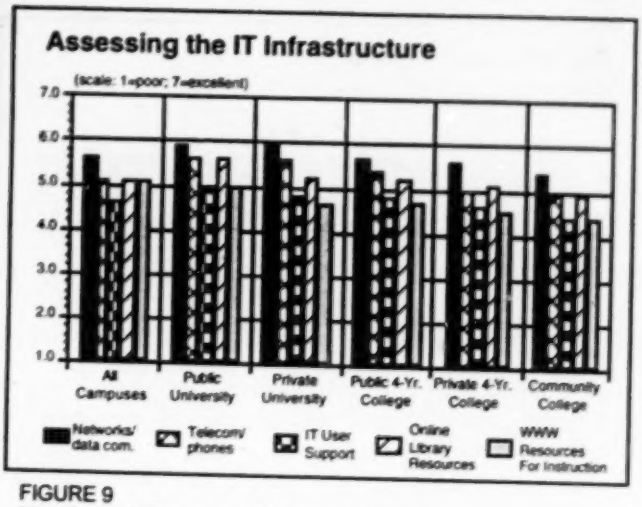

FIGURE 9
User Support Concerns, 1998 (percentages)

The data presented in Figure 10 show significant differences across the five major sectors of American higher education. Yet also striking is the comparison of user support ratios on college campuses and in corporations.

For example, end-user IT support ratios in corporate environments, as reported by the Gartner Group,[3] typically run 50 or 75 users per one IT support person. In contrast, the best levels of user support, in private universities, run about 180 students per support person, roughly one-half to one-third the level in corporations. Moreover, user support in other sectors, as measured by the ratios shown in Figure 10, are one-fifth to one-tenth the levels found in private research universities, where the ratio of students to IT personnel are lowest in higher education, but still well above the numbers for corporate environments.

Admittedly, the ratios presented Figure 10 actually understate the level of user support because the base numbers do not include faculty, administrators, and other college staff. Were these personnel included in the calculations, the ratios might be 10-20 percent higher.

Year 2K Issues

As a group, the campus officials responsible for IT planning and operations do not appear very concerned about the potential impact of the Year 2000 bug at their campuses. The vast majority, 70.0 percent of the survey respondents, "disagree" or "strongly disagree" that "Y2K problems pose a major problem for my institution."

The 1998 survey data suggest that campus officials view the Y2K issue as a supplier responsibility, rather than a campus problem. Many (perhaps the majority) of the nation's colleges and universities now buy, rather than build, most of their core academic and administrative software. Consequently, campus officials no doubt expecting their software suppliers to provide solutions to potential Y2K problems.

Measuring User Support

	Public University	Private University	Public 4-Yr. College	Private 4-Yr. College	Community College
average number of FTE technical support personnel	126	93	14	9	8
ratio of student enrollment to IT technical support personnel	184:1	127:1	475:1	262:1	658:1

FIGURE 10
User Support Metrics, 1998

Instructional Support and Recognition

Although survey respondents identify instructional integration as a major IT challenge for their campuses, the 1998 survey data reveal that few institutions formally recognize and reward faculty for their investments in IT and instruction as part of the review and promotion process. Indeed, as shown in Figure 11, although most campuses encourage faculty efforts towards IT integration via support centers and grant programs, institutions generally ignore IT as a factor in personnel reviews.

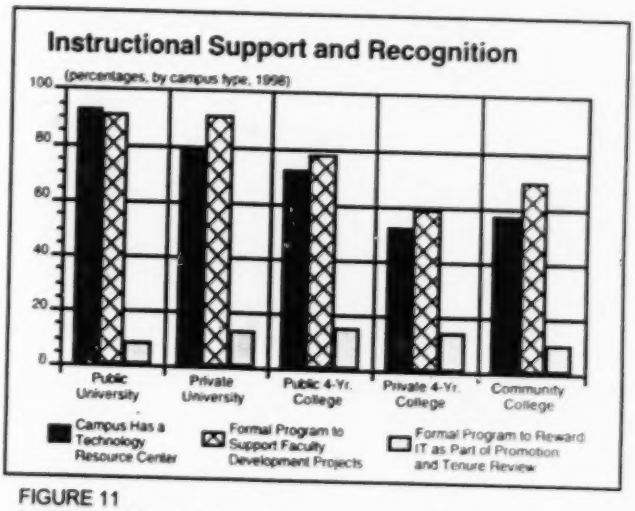

FIGURE 11
Institutional Support for and Recognition of Faculty Efforts to Bring IT into the Curriculum, 1998

[3]See the Gartner Group (www.gartner.com) for additional information about user support metrics.

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Intellectual Property Policies

The growing role of the WWW as a vehicle for scholarly dissemination and as a repository for instructional resources raises important questions about who owns intellectual property – a course syllabus, working paper, or some instructional software – posted on a college or university WWW site. Yet as shown in Figure 12, the 1998 survey reveals that while campus officials recognize the importance of developing campus policies on intellectual property, most institutions have not done so.

Roughly a third of research universities report some type of policy addressing faculty-developed intellectual property on the campus WWW site (38.6 pct. for public universities; 30.4 pct. for private universities). In contrast, just over a fourth (27.5 pct.) of public four-year colleges and community colleges (27.3 pct.) have institutional policies about WWW-based intellectual property, while less than a sixth (14.1 pct.) of four-year private colleges have addressed this issue.

Given great expectations in some parts of both the campus and the corporate community for the role of the WWW as a cash machine for online instruction, it is easy to anticipate tense discussions between faculty and administrators about institutional copyright policies affecting a wide range of materials and resources that faculty routinely develop as part of their scholarly and instructional activities. To date, many faculty and researchers have been willing to post these materials on WWW sites hosted by their home institutions. That could change quickly, however, if colleges and universities claim copyright based on the fact that content has been posted on a campus WWW site.

WWW-Based Services

Not surprisingly, colleges and universities are using the WWW to offer an expanding range of core academic, curricular, student support, and IT services. Across all sectors of higher education, a growing proportion of institutions are using the WWW to provide access to admissions forms, financial aid applications, class schedules, course reserves, and related resources and services. In some areas, the gains from 1997 to 1998 are striking: alumni services are up by a fifth (from 46.0 to 55.6 percent), student transcripts almost doubled (from 9.8 pct. of the 1997 respondents to 17.8 pct. this year), and online course reserves more than doubled from 8.6 percent in 1997 to 19.9 percent in 1998.

Developing Policies for WWW-based Content

	Public University	Private University	Public 4-Yr. College	Private 4-Yr. College	Community College
importance of developing campus policies for WWW-based instruction (mean score by campus type scale: 1=not important; 7=very important)	5.6	5.5	5.4	5.0	5.1
campus has policy regarding ownership of WWW-based curriculum resources and intellectual property developed by faculty (pct. of colleges)	38.6	30.4	27.5	14.1	27.3

FIGURE 12
Campus Policies on WWW-based Content, 1998

Yet as shown in Figure 13, comparatively few campuses currently provide e-commerce services via their WWW sites. Given that growing numbers of students and faculty now buy clothing, computers, music, travel services, and books online, it is surprising that so few institutions have developed a capacity for e-commerce. Moreover, e-commerce in the campus environment involves more than making it easy for prospective students to pay application fees on-line or assist alumni by t-shirts from college bookstore WWW sites: long-term, e-commerce involves on-line access to course materials and other curriculum resources. E-commerce also offers the potential to reduce transaction costs and improve a wide range of enterprise-level services.

What's on the Campus WWW Page?

(percentages, by sector, 1998)	Public University	Private University	Public 4-Yr. College	Private 4-Yr. College	Community College
undergraduate application	76.3	78.8	69.4	54.1	39.1
course catalog	86.4	91.3	75.7	62.2	54.7
program/degree requirements	83.1	69.6	73.9	68.4	46.0
course registration	52.5	39.1	27.0	10.7	16.1
library catalog	86.4	95.7	83.8	68.4	37.3
course reserves	39.0	52.2	20.7	20.9	11.9
student transcripts	44.1	43.5	22.5	12.2	8.7
IT support services	64.7	82.6	64.0	57.1	12.4
instructional software	57.6	60.9	26.1	25.5	5.0
press/media information	89.8	87.0	84.0	64.3	25.0
e-commerce services	18.6	13.0	1.8	4.1	3.1
bookstore	49.2	52.2	28.8	26.0	9.9

FIGURE 13
Services on Campus WWW Sites, 1998 (percentages)

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
Number of Respondents	571	59	23	111	196	161	21
Does your institution have:							
A formal policy promoting or mandating computers/ technology resources for							
Curriculum utilization?	32.1	36.4	30.4	34.3	28.6	33.3	35.0
Undergraduates?	33.8	41.8	21.7	38.5	36.5	24.3	42.1
Graduate students?	15.4	32.7	21.7	21.2	17.8	0.8	0.0
Distance education?	22.9	38.6	26.1	25.5	14.9	26.1	10.5
A computer instruction or computer competency requirement for all undergraduates?	42.8	24.1	27.3	45.0	45.4	42.9	81.0
A special computer use fee or annual/term computer use charge for all students?	45.8	67.2	36.4	61.5	37.3	40.3	28.6
Average annual computer use fee (where charged)	$ 120	$ 143	$ 233	$ 106	$ 146	$ 72	75.0
A formal policy on confidentiality of data?	79.3	91.4	81.8	89.5	79.8	71.8	50.0
Operating systems recommended/supported*							
Macintosh	62.9	84.7	95.7	79.3	65.8	37.9	38.1
Unix	54.0	81.4	95.7	63.1	50.0	41.6	19.0
Solaris	25.4	59.3	69.6	32.4	21.9	8.7	9.5
Linux	20.7	33.9	34.8	23.4	22.4	11.8	9.5
MS-DOS	40.8	40.7	30.4	41.4	36.7	45.3	47.6
Windows 3.x	50.7	57.6	21.7	53.2	48.0	53.4	52.4
Windows 95	93.0	88.1	100.0	90.1	93.9	94.4	95.2
Windows 98	35.2	59.3	52.2	40.5	32.7	23.0	38.1
Windows NT	74.4	84.7	87.0	87.4	68.4	68.9	61.9
O/S2 Warp	2.1	8.5	4.3	2.7	0.0	1.9	0.0
None	2.3	11.9	0.0	0.9	2.0	0.6	0.0
Do you require or strongly recommend microcomputer ownership for							
All students							
No	67.6	63.6	30.4	69.4	55.4	89.3	66.7
Recommend	29.9	32.7	65.2	27.0	41.5	10.7	28.6
Require	2.5	3.6	4.4	3.6	3.1	0.0	4.8
Students in specific disciplines or programs							
No	59.2	28.6	9.1	65.4	57.9	74.0	75.0
Recommend	32.5	41.1	72.7	31.7	33.9	23.4	25.0
Require	8.3	30.4	18.2	2.9	8.2	2.6	0.0
Students in individual academic units/schools							
No	66.9	37.0	8.7	70.9	63.5	86.9	75.0
Recommend	27.2	37.0	78.3	28.2	29.3	13.1	25.0
Require	5.9	25.9	13.0	1.0	7.2	0.0	0.0
Does your institution recommend a particular brand/product for*							
Hardware							
students?	32.6	31.0	56.5	31.8	43.7	17.6	28.6
faculty?	62.5	47.4	78.3	73.9	67.7	53.8	42.9
administrators/staff?	66.7	52.6	82.6	75.7	73.4	57.6	47.6
Software							
students?	52.5	42.1	76.2	51.9	72.0	29.8	52.4
faculty?	71.9	50.9	81.8	79.3	81.3	65.8	47.6
administrators/staff?	77.5	33.9	30.4	20.7	21.9	9.9	14.3
Brands/kinds recommended by your institution*							
Apple/Macintosh							
Power PC systems	19.9	33.9	30.4	20.7	21.9	9.9	14.3
G-3 systems	33.4	49.2	65.2	46.8	37.2	13.0	0.0
Intel, Windows, OS/2 Compatibles							
Pentium systems	43.0	42.4	39.1	45.0	44.9	39.1	42.9
Pentium II systems	67.8	72.9	87.0	75.7	66.3	61.5	52.4
Unix Systems							
Digital (DEC)	11.3	16.9	13.0	18.0	10.2	6.2	0.0
IBM	8.7	23.7	21.7	9.9	5.1	5.6	0.0
Sun	20.9	49.2	73.9	25.2	17.3	5.6	9.5
Other	2.6	5.1	1.8	0.0	3.1	2.5	0.0
HP	10.8	16.9	21.7	10.8	8.2	10.6	4.8
Silicon Graphics	8.7	35.6	30.4	10.8	4.6	0.0	0.0

Percentages by campus category.
**Columns may total more than 100% since responses were not mutually exclusive.*

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
HARDWARE AND SOFTWARE RESALE POLICIES AND PROGRAMS							
Does your institution have pricing or resale agreement with							
Hardware vendors?							
No	51.1	13.6	8.7	44.1	47.4	76.9	85.7
No, sell through on-campus facility	2.3	3.4	0.0	2.7	1.6	2.5	4.8
Yes, sold through bookstore	19.4	40.7	52.2	27.0	16.5	8.1	0.0
Yes, sold through entity not affiliated with bookstore	16.5	32.2	30.4	12.6	22.7	4.4	4.8
Yes, sold with off-campus dealer	10.7	10.2	8.7	13.5	11.9	8.1	4.8
Software vendors?							
No	43.5	8.5	4.4	35.1	40.9	67.7	76.2
No, sell through on-campus facility	5.3	6.8	0.0	5.4	6.7	3.8	4.8
Yes, sold through bookstore	33.3	52.5	60.9	42.3	33.2	20.3	4.8
Yes, sold through entity not affiliated with bookstore	10.9	27.1	21.7	9.0	13.0	1.9	4.8
Yes, sold with off-campus dealer	7.0	5.1	13.0	8.1	6.2	6.3	9.5
Does your institution require software purchase as part of resale program?							
No	82.0	79.3	47.8	81.6	77.5	93.9	85.7
Strongly encouraged	14.7	19.0	47.8	15.5	15.4	6.1	14.3
Required	3.3	1.7	4.4	2.9	7.1	0.0	0.0
Does your institution have policy regarding software duplication?							
No	10.2	5.3	4.4	8.5	8.5	13.8	20.0
No, but under development	11.5	7.0	0.0	9.4	12.2	15.1	15.0
Yes	78.3	87.7	95.7	82.1	79.3	71.1	65.0

Percentages by campus category.

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES							
Headcount enrollment on campus as of Spring 1998	6,533	23,165	11,813	6,653	2,271	5,266	826
Number of institution owned desktop or notebook computers	1,828	8,750	5,531	1,535	691	639	188
Number of institution owned Unix workstations	112	580	477	46	21	13	1
Pct. of institutional owned machines connected to the network	90	90	96	92	92	86	72
Number of personally owned desktop computers	1,019	5,407	3,510	668	574	48	114
Proportion of individuals who own desktop or notebook computers							
Students	42.4	54.4	66.0	41.8	48.3	28.1	34.6
Faculty	64.0	71.6	82.8	62.1	70.3	53.6	53.3
Administrators/staff	58.7	60.4	79.1	52.6	65.2	52.6	52.9
Number of desktop/notebook computers purchased by:							
1997-98							
Students	525	2115	1700	564	220	129	61
Faculty	104	384	395	115	55	44	15
Administrators/staff	119	506	758	90	60	33	13
Campus labs, clusters & other instructional use	128	390	264	153	65	102	40
1998-99							
Students	589	2367	1356	710	290	130	68
Faculty	107	379	427	118	61	37	20
Administrators/staff	128	521	860	100	63	36	14
Campus labs, clusters & other instructional use	138	425	216	150	70	134	43
Number of desktop computer labs, clusters and classrooms	48	75	46	69	33	43	45
Number of labs dedicated to departments or units?	22	43	22	37	13	16	11
Number of desktop computers/workstations in all labs/classrooms/clusters							
Desktop computers	507	1,899	1,138	557	178	373	100
Unix Workstations	44	218	103	26	12	5	2
Number of network servers (mean)	41	210	155	27	20	10	4.3
Operating systems installed on college-owned computers and servers							
Computers/clients (percentage)							
Macintosh	16.1	18.1	23.2	19.2	21.2	6.0	7.4
Win 3x	15.8	12.4	10.7	15.3	16.1	18.8	14.5
Win 95	61.9	50.3	52.3	55.9	59.1	74.1	67.8
Win 98	5.2	3.3	3.2	5.6	8.2	2.9	6.1
Win NT	13.0	12.9	8.1	14.9	14.2	9.1	15.3
Unix	4.8	8.8	6.9	4.7	3.7	2.8	4.5
Network servers (percentage)							
Macintosh	9.2	7.8	6.0	7.4	13.6	4.7	9.0
Win NT	42.9	29.8	22.3	44.6	49.0	41.4	48.1
O/S 2	1.7	0.5	0.8	0.6	0.3	5.9	0.0
Unix	19.4	24.8	37.1	19.5	18.9	13.8	6.9
Linux	7.3	4.1	6.8	7.8	9.1	7.9	3.6
Novell	41.8	38.3	37.3	35.9	42.0	50.5	30.4
Number of FTE IT help desk/technical support personnel	24.1	126.0	93.0	13.9	9.2	7.7	3.2
Ratio of students to FTE technical support personnel (1:x)	271.1	183.8	127.0	478.6	246.9	683.9	258.2
Percentage of classes that use:							
Computer-based classrooms/labs	24.4	22.8	24.0	24.8	22.4	26.6	22.6
Computer simulations	15.7	14.4	14.9	15.1	15.4	15.7	21.5
Presentation handouts	36.0	37.8	37.7	35.9	34.2	38.0	27.0
CD-ROM materials	14.9	13.3	14.4	14.6	13.6	16.5	16.6
Electronic mail	44.0	56.0	56.7	48.6	50.8	26.4	33.9
Commercial courseware	15.8	11.6	12.8	14.5	12.9	21.8	18.9
Interactive data analysis	10.5	10.8	12.7	10.9	10.2	9.5	6.3
Multimedia	18.9	19.6	19.1	18.5	17.2	20.6	17.2
Internet resources	33.1	38.1	32.3	34.7	34.9	26.0	37.6
WWW pages for class materials and resources	22.5	33.1	40.7	25.3	22.9	13.8	16.3

Means by campus category.

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES							
Does your campus/institution have/provide							
Plan for integrating IT into the curriculum	40.4	44.1	43.5	39.1	36.1	44.3	42.9
Projects for developing desktop instructional software/courseware	*55.4*	*83.1*	*82.6*	*64.8*	*47.4*	*46.8*	*33.3*
Support for faculty developing instructional software/courseware	69.8	91.5	91.3	78.2	58.5	69.0	47.6
Support for faculty developing software for their research	*36.2*	*63.2*	*47.8*	*52.7*	*30.6*	*24.2*	*4.8*
Program for rewarding courseware development	27.8	38.6	17.4	36.4	23.4	26.9	9.5
Resource center focusing on use of IT	*61.9*	*93.2*	*78.3*	*72.5*	*52.1*	*57.0*	*23.8*
Agreements/licenses for duplication of software products?	54.0	86.4	69.6	69.1	51.8	35.2	23.8
Plan for using Internet resources in instruction	*33.3*	*31.0*	*31.8*	*27.5*	*33.7*	*38.2*	*28.6*
Plan for using Internet resources in distance education	29.5	36.2	34.8	34.9	17.3	39.4	14.3
Plan for using Internet for marketing	*47.1*	*47.5*	*43.5*	*44.4*	*53.6*	*40.5*	*52.4*
Program to reward use of IT in review/promotion process	12.9	8.8	13.0	15.6	14.7	10.9	9.5
Maintain library of academic courseware	*22.2*	*29.8*	*8.7*	*30.3*	*19.4*	*20.6*	*9.5*
Program assessing the impact of IT on instruction	13.1	24.1	34.8	12.0	9.9	10.4	14.3
Policy regarding ownership of WWW-based resources developed by faculty	*23.3*	*38.6*	*30.4*	*27.5*	*14.1*	*27.3*	*4.8*
Does your institution have a strategic plan for the use of IT?							
No	15.0	13.6	8.7	15.6	17.2	13.1	15.8
Preparing strategic plan for IT	37.0	37.3	30.4	32.1	34.4	41.9	57.9
Yes	48.0	49.2	60.9	52.3	48.4	45.0	26.3
Has your institution established a single product standard for:							
Desktop/notebook computer operating system							
No	65.2	91.5	91.3	76.6	63.5	47.8	52.4
Macintosh	1.4	1.7	0.0	0.0	2.1	1.9	0.0
Win 3.x	0.2	0.0	0.0	0.0	0.5	0.0	0.0
Win 95	3.2	0.0	0.0	2.7	3.7	3.1	14.3
Win 98	25.1	3.4	8.7	16.2	24.5	42.9	23.8
Win NT	1.4	3.4	0.0	0.9	1.0	1.2	4.8
Desktop/notebook product or manufacturer							
No	72.7	91.2	90.5	75.5	71.3	63.9	71.4
Apple	1.6	1.8	0.0	0.0	2.1	2.5	0.0
Compaq	3.1	0.0	4.8	3.6	3.7	2.5	4.8
Dell	5.0	5.3	0.0	2.7	6.4	6.3	0.0
Gateway	7.2	0.0	0.0	7.3	4.8	12.0	14.3
IBM	3.6	1.8	4.8	2.7	3.2	5.1	4.8
Other	6.8	0.0	0.0	8.2	8.5	7.6	4.8
Word processing							
No	39.8	74.6	47.8	45.1	29.2	35.9	33.3
Microsoft Word	54.6	25.4	52.2	47.8	62.5	61.0	52.4
WordPerfect	4.9	0.0	0.0	7.2	6.8	3.1	9.5
Other	0.7	0.0	0.0	0.0	1.6	0.0	4.8
Software applications suite							
No	36.7	74.6	43.5	43.1	27.8	29.1	28.6
Lotus SmartSuite	1.1	0.0	0.0	0.0	2.1	0.6	4.8
Microsoft Office	58.9	25.4	56.5	53.2	66.0	67.1	57.1
WordPerfect Suite	2.8	0.0	0.0	3.7	3.6	2.5	4.8
Other	0.5	0.0	0.0	0.0	0.5	0.6	4.8
Internet browser							
No	42.3	67.8	60.9	46.8	35.6	35.4	42.9
Microsoft Explorer	10.4	1.7	0.0	11.0	12.6	9.3	28.6
Netscape Navigator	46.7	30.5	39.1	42.2	50.8	54.7	28.6
Other	0.5	0.0	0.0	0.0	1.1	0.6	0.0
Groupware							
No	67.0	79.0	82.6	72.2	65.2	59.5	71.4
Lotus Notes	4.3	3.5	8.7	1.9	4.8	5.1	0.0
Microsoft Exchange	14.5	3.5	0.0	15.7	16.0	15.8	23.8
Novell Groupwise	12.0	14.0	8.7	8.3	10.7	17.1	4.8
Other	2.2	0.0	0.0	1.9	3.2	2.5	0.0

Percentages by campus category.

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES (Continued)							
What academic resources/services are on your WWW site?*							
Undergraduate admissions applications	55.4	76.3	78.3	69.4	54.1	39.1	38.1
Financial aid application	*26.3*	*40.7*	*56.5*	*29.7*	*24.5*	*17.4*	*14.3*
Current course catalog	65.2	86.4	91.3	75.7	62.2	54.7	33.3
Program/major/degree requirements	*63.6*	*83.1*	*69.6*	*73.9*	*68.4*	*46.0*	*42.9*
Course registration	20.9	52.5	39.1	27.0	10.7	16.1	9.5
Course add/drop options	*14.8*	*49.2*	*34.8*	*19.8*	*7.7*	*6.8*	*#REF!*
E-commerce	5.1	18.6	13.0	1.8	4.1	3.1	#REF!
Library/card catalog	*63.4*	*86.4*	*95.7*	*83.8*	*68.4*	*47.8*	*14.3*
Interlibrary loan services	40.1	59.3	65.2	47.7	49.5	16.8	9.5
Journals and reference resources	*53.1*	*74.6*	*87.0*	*64.9*	*62.8*	*25.5*	*14.3*
Course reserves	17.9	39.0	52.2	20.7	20.9	1.9	#REF!
Student transcripts	*17.6*	*44.1*	*43.5*	*22.5*	*12.2*	*8.7*	*4.8*
IT support resources	48.1	84.7	82.6	64.0	57.1	12.4	9.5
Instructional software	*24.1*	*57.6*	*60.9*	*26.1*	*26.5*	*5.0*	*#REF!*
Faculty/staff directory	74.2	91.5	91.3	87.4	72.4	64.0	38.1
Student newspaper	31.2	62.7	69.6	33.3	34.7	10.6	14.3
Student handbook	*33.3*	*61.0*	*69.6*	*42.3*	*32.1*	*14.9*	*9.5*
Athletic event schedule	61.5	89.8	91.3	73.0	74.5	28.0	28.6
Alumni information/services	*56.6*	*83.1*	*82.6*	*65.8*	*74.5*	*14.9*	*33.3*
Press releases/media services	54.5	89.8	87.0	64.0	64.3	23.0	23.8
Campus bookstore	*26.0*	*49.2*	*52.2*	*28.8*	*28.6*	*9.9*	*9.5*
Percentages by campus category.							
**Columns may not total 100% since responses are not mutually exclusive.*							
FUTURE ISSUES AFFECTING CAMPUS COMPUTING							
How important are the following to campus computing/IT?							
Operating system/interface/development							
MS-DOS	1.5	1.4	1.3	1.3	1.4	1.7	0.0
Windows 3.x	1.6	1.8	1.4	1.4	1.5	1.6	2.5
Windows 95	4.7	4.6	4.1	4.8	4.6	4.8	1.8
Windows 98	5.0	5.3	5.1	4.9	4.6	5.2	4.9
Windows NT Server	5.9	5.8	5.8	6.2	5.8	5.8	5.7
Windows NT Desktop	5.3	5.7	5.4	5.7	5.2	5.0	6.1
Windows CE	2.3	2.8	2.7	2.2	2.2	2.1	4.9
O/S 2 Wrap	1.2	1.3	1.2	1.2	1.2	1.3	2.6
Macintosh O/S 8x	3.4	4.5	4.4	3.9	3.7	2.3	1.4
Macintosh O/S X	3.0	4.2	3.6	3.2	3.4	2.1	2.3
Solaris	2.8	5.1	4.7	3.0	2.6	1.8	2.1
Unix	4.1	5.9	5.3	4.6	4.0	3.4	1.4
Linux	3.0	4.1	4.0	3.2	3.2	2.2	2.7
Hardware							
Notebook computers	5.2	5.7	5.6	5.6	5.2	4.8	2.1
Handheld computers/PDAs	3.1	4.0	3.8	3.3	2.9	2.9	4.9
Pentium-CPUs	4.4	4.6	4.1	4.6	4.1	4.6	2.8
Pentium MMX CPUs	4.8	5.1	4.3	4.9	4.4	5.1	4.4
Pentium II CPUs	6.1	6.1	6.1	6.3	6.0	6.2	4.5
Macintosh computers	3.6	4.5	4.5	4.1	3.8	2.6	6.1
Unix workstations	3.3	5.1	4.7	3.8	3.2	2.3	2.6
Network computers	3.3	3.3	3.4	3.4	2.7	3.9	2.5
Writable CD-ROM	4.6	4.5	4.0	4.9	4.5	4.6	4.4
DVD	4.1	4.1	4.4	4.2	4.0	4.1	4.8
PCMCIA Cards	4.5	4.7	5.1	4.8	4.7	4.1	4.0
Smart Cards	4.1	4.6	4.3	4.3	3.9	3.8	3.7
Digital Cameras	4.6	4.5	4.4	4.8	4.7	4.6	3.6
User support & service							
User support & training	6.5	6.5	6.6	6.6	6.5	6.4	4.6
Charging for services now provided for little or not cost	3.8	4.2	4.2	4.0	3.6	3.6	6.2
Upgrading aging hardware	6.1	6.0	5.7	6.2	6.0	6.3	3.8
Upgrading aging software	6.1	5.9	5.8	6.1	6.0	6.3	6.0
Providing Internet/WWW training	5.7	5.6	5.8	5.9	5.5	5.9	6.2
Online/computer-based training	5.2	5.6	5.6	5.6	4.6	5.6	5.6
Online technical support	5.3	5.7	5.7	5.7	4.9	5.3	5.0
Mean ratings by campus category							
Scale from 1="Not Important" to 7="Very Important".							

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
FUTURE ISSUES AFFECTING CAMPUS COMPUTING (Continued)							
Networking & Internet/WWW issues & resources							
Merging data & telecommunications networks	5.0	5.2	5.1	5.2	4.6	5.1	5.0
Connecting PC-LANS to campus networks	5.3	5.5	5.4	5.4	4.9	5.5	4.8
Wireless networks	4.0	4.5	4.4	4.2	3.7	3.8	5.9
Electronic mail	6.5	6.6	6.6	6.6	6.5	6.3	4.5
Network Fax	4.1	3.9	4.1	4.1	3.9	4.4	6.3
Lotus Notes	2.2	2.6	2.6	2.1	1.9	2.4	4.6
Lotus Domino	2.1	2.8	2.6	2.0	1.8	2.2	1.9
Microsoft Exchange	3.6	3.6	3.0	3.6	3.5	3.8	1.7
Internet/WWW Access	6.6	6.7	6.5	6.8	6.6	6.5	4.2
Netscape Navigator	5.7	6.0	5.8	5.8	5.6	5.7	6.3
Microsoft Internet Explorer	4.6	4.9	4.3	4.8	4.5	4.5	5.0
Java (Sun Microsystems)	4.9	5.6	5.3	5.3	4.8	4.6	5.3
ATM	4.4	5.6	5.1	5.2	4.0	3.9	4.1
Adobe Acrobat	4.6	4.9	4.7	4.9	4.5	4.4	2.7
Internet II	4.1	5.6	5.3	4.3	3.5	4.0	4.0
Internet videoconferencing	4.9	5.4	5.8	5.2	4.4	5.2	3.6
Network security	6.3	6.5	6.4	6.4	6.2	6.3	4.5
Educoms IMS standards	3.9	4.4	4.4	4.2	3.5	3.8	5.9
E-commerce on the WWW	3.9	4.8	4.7	4.4	3.6	3.6	4.1
Resale and distribution							
Hardware resale contracts	3.2	3.9	4.3	3.3	3.4	2.4	3.4
Software resale contracts	3.2	4.2	4.6	3.4	3.3	2.5	3.0
Software site licensing	5.7	6.1	5.8	5.9	5.6	5.6	2.8
Content site licenses	4.8	5.4	5.1	4.9	4.7	4.6	5.5
Instructional applications and resources							
Developing instructional software	4.7	5.5	5.3	5.1	4.4	4.5	4.5
Using instructional software in classes	5.9	5.9	5.9	6.2	5.7	5.8	4.1
Using instructional software as a supplement to class	6.0	6.1	5.9	6.2	5.9	5.9	5.6
Computer-based classroom presentation facilities	6.1	6.3	5.9	6.3	6.1	6.0	5.7
Internet resources for instruction	6.1	6.4	6.0	6.3	6.0	6.1	5.9
CD-ROM libraries	5.1	5.0	4.6	5.2	4.8	5.4	6.0
WWW pages for classes	6.0	6.4	6.0	6.3	5.9	6.0	5.6
Mean ratings by campus category *Scale from 1="Not Important" to 7="Very Important".*							
RATING THE TECHNOLOGY INFRASTRUCTURE							
Computer networks and data communication	5.6	5.9	6.0	5.7	5.6	5.4	5.2
Telecommunications and phone system	5.1	5.6	5.6	5.4	5.0	4.9	5.0
Video	4.0	4.3	3.8	4.4	3.7	4.2	4.7
User support services	4.6	4.9	4.8	4.8	4.6	4.4	3.6
On-line reference resources in campus library/library system	5.1	5.6	5.2	5.2	5.1	4.9	4.0
WWW resources to support instruction	4.5	5.0	4.6	4.7	4.5	4.4	4.0
Mean rating by campus category. *Scale from 1="Poor" to 7="Excellent".*							

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
ADDRESSING BUDGET ISSUES BY:							
Reducing purchases of computer technology							
Doing this already	9.5	16.1	0.0	7.3	9.4	10.1	10.0
Beginning in 98/99	3.4	3.6	0.0	0.9	3.7	5.0	5.0
Reviewing for 98/99	9.5	7.1	0.0	11.0	7.9	10.7	25.0
Decided not to do	77.6	73.2	100.0	80.7	79.1	74.2	60.0
Charging fees to departments and service units							
Doing this already	17.9	38.9	31.8	23.6	13.7	11.6	0.0
Beginning in 98/99	3.3	5.6	4.6	2.7	3.7	2.6	0.0
Reviewing for 98/99	16.5	11.1	22.7	20.0	11.1	19.4	33.3
Decided not to do	62.3	44.4	40.9	53.6	71.6	66.5	66.7
Charging fees to individual uses							
Doing this already	22.6	47.3	31.8	26.9	20.7	13.1	10.0
Beginning in 98/99	4.6	10.9	4.6	3.7	4.8	2.6	5.0
Reviewing for 98/99	24.4	14.6	36.4	27.8	20.2	28.1	35.0
Decided not to do	48.5	27.3	27.3	41.7	54.3	56.2	50.0
Requiring a student computer use fee							
Doing this already	42.9	61.4	22.7	63.6	32.8	37.8	25.0
Beginning in 98/99	3.9	3.5	9.1	1.8	4.2	3.9	10.0
Reviewing for 98/99	16.3	15.8	13.6	7.3	14.6	23.1	35.0
Decided not to do	37.0	19.3	54.6	27.3	48.4	35.3	30.0
Leasing hardware							
Doing this already	13.8	14.3	31.8	13.0	16.2	8.6	15.8
Beginning in 98/99	2.9	5.4	0.0	2.8	2.6	2.0	10.5
Reviewing for 98/99	22.1	30.4	22.7	22.2	20.4	19.7	26.3
Decided not to do	61.2	50.0	45.5	62.0	60.7	69.7	47.4
Recycle older equipment							
Doing this already	77.1	76.4	72.7	87.4	72.7	77.9	65.0
Beginning in 98/99	3.2	1.8	4.6	1.8	3.6	4.4	0.0
Reviewing for 98/99	7.5	7.3	0.0	4.5	6.2	11.4	15.0
Decided not to do	12.3	14.6	22.7	6.3	17.5	6.3	20.0
Vendor financing							
Doing this already	15.0	25.5	20.0	17.0	14.4	10.7	5.6
Beginning in 98/99	0.7	0.0	0.0	0.0	1.1	0.7	5.6
Reviewing for 98/99	13.4	12.7	5.0	12.3	12.3	14.7	33.3
Decided not to do	70.9	61.8	75.0	70.8	72.2	74.0	55.6
Reducing hours in public access facilities							
Doing this already	7.5	17.5	0.0	2.8	5.9	10.5	5.6
Beginning in 98/99	1.3	0.0	0.0	0.9	1.6	2.0	0.0
Reviewing for 98/99	5.7	5.3	4.6	7.6	3.7	5.9	11.1
Decided not to do	85.5	77.2	95.5	88.7	88.8	81.6	83.3
Reducing services							
Doing this already	12.0	28.1	0.0	11.1	9.6	12.2	0.0
Beginning in 98/99	1.5	1.8	0.0	0.0	1.6	2.7	0.0
Reviewing for 98/99	9.2	8.8	9.1	9.3	8.5	8.8	22.2
Decided not to do	77.3	61.4	90.9	79.6	80.3	76.2	77.8
Reorganizing operations							
Doing this already	46.8	67.9	57.1	60.4	41.8	36.8	26.3
Beginning in 98/99	5.8	8.9	14.3	2.8	4.2	7.1	10.5
Reviewing for 98/99	15.1	10.7	19.1	17.9	11.6	18.1	21.1
Decided not to do	32.2	12.5	9.5	18.9	42.3	38.1	42.1
Reducing staff							
Doing this already	11.2	20.0	0.0	15.9	8.5	9.8	11.8
Beginning in 98/99	1.7	0.0	0.0	0.0	2.1	3.3	0.0
Reviewing for 98/99	5.3	7.3	9.5	4.7	3.2	7.2	5.9
Decided not to do	81.8	72.7	90.5	79.4	86.2	79.7	82.4

Percentages by campus category

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
ADDRESSING BUDGET ISSUES BY: (Continued)							
Using IT to reduce instructional costs							
Doing this already	29.4	46.9	40.0	36.1	16.1	36.4	10.5
Beginning in 98/99	4.3	6.1	0.0	2.8	1.7	8.6	5.3
Reviewing for 98/99	31.1	26.5	35.0	29.6	33.3	27.8	42.1
Decided not to do	35.1	20.4	25.0	31.5	48.9	27.2	42.1
Making greater use of student assistants							
Doing this already	72.6	84.5	81.8	88.2	73.6	59.0	50.0
Beginning in 98/99	7.1	1.7	0.0	4.6	7.3	10.9	15.0
Reviewing for 98/99	11.7	10.3	13.6	3.6	10.9	16.0	25.0
Decided not to do	8.5	3.5	4.6	3.6	8.3	14.1	10.0
Outsourcing Internet access to commercial providers							
Doing this already	24.1	36.8	20.0	28.0	24.5	15.7	36.8
Beginning in 98/99	1.3	1.8	0.0	1.9	1.6	0.7	0.0
Reviewing for 98/99	12.3	19.3	15.0	12.2	10.9	11.1	10.5
Decided not to do	62.3	42.1	65.0	57.9	63.0	72.6	52.6
Outsourcing computing services to commercial providers							
Doing this already	8.1	10.5	4.8	7.4	7.3	9.7	0.0
Beginning in 98/99	1.1	1.8	0.0	0.0	2.1	0.7	0.0
Reviewing for 98/99	10.8	14.0	14.3	12.0	8.3	9.1	27.8
Decided not to do	79.9	73.7	81.0	80.6	82.3	80.5	72.2
Percentages by campus category.							
STRATEGIC, BUDGET AND PERSONNEL ISSUES*							
Assessing benefits of current investment	5.6	5.4	5.8	5.6	5.4	5.7	3.7
Clarifying goals and campus plans for technology resources	6.2	6.2	6.0	6.2	6.2	6.1	5.8
Providing incentives for faculty to use technology	5.2	5.5	5.0	5.5	4.9	5.1	6.3
Allocating funds to support expanded services	5.7	5.8	6.0	5.8	5.7	5.7	5.0
Faculty concerns about benefits of computing in the curriculum	5.2	5.2	5.0	5.2	5.1	5.2	5.8
Administrative concerns about benefits of computing in the curriculum	4.9	4.6	4.8	4.9	4.9	5.2	5.3
Developing/strengthening vendor relationships	4.6	4.9	5.1	4.7	4.5	4.6	4.8
Charging fees to students for access	4.0	4.5	3.1	4.5	3.5	4.2	4.7
Establishing/maintaining campus-wide hardware standards	5.7	5.1	5.6	5.8	5.6	5.8	3.9
Establishing/maintaining campus-wide software standards	5.8	5.3	5.8	5.9	5.8	6.0	5.7
Integrating computing with allied services	5.1	5.1	5.3	5.0	4.9	5.2	6.0
Expanding computer networking across the campus	5.6	5.8	5.6	5.7	5.3	5.8	5.6
Operating a resale program	3.0	3.5	3.9	3.0	3.1	2.6	5.7
Developing budget model to replace aging equipment	6.0	6.0	5.8	6.2	5.9	6.1	3.0
Moving applications from mainframes/minicomputers to other platforms	4.2	4.5	4.2	4.5	4.0	4.3	5.9
Using Internet/WWW resources in instruction	6.1	6.2	6.0	6.2	5.9	6.1	4.0
Using IT-based commercial curriculum products	4.9	4.6	4.1	5.0	4.6	5.2	6.2
Using IT to enhance distance education program	5.2	6.1	4.9	5.7	4.0	6.0	5.4
Negotiating site licensing with textbook publishers	4.3	4.4	4.3	4.2	3.8	4.9	5.1
Negotiating site licensing with academic publishers	4.4	4.5	4.4	4.3	3.9	4.9	4.5
Sharing digital resources with other campuses/institutions	4.7	5.2	5.0	4.8	4.3	5.0	4.7
Developing campus policies for WWW-based intellectual property	5.2	5.6	5.5	5.4	5.0	5.1	4.1
Mean ratings by campus category.							
Scale from 1="Not Important" to 7="Very Important".							

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S							
Total academic computing budget							
Reduced >5%	5.2	5.3	0.0	6.4	3.7	6.9	5.0
Reduced 3-5%	2.1	1.8	0.0	0.9	3.2	1.9	5.0
Reduced 1-3%	2.7	7.0	4.6	1.8	1.1	3.8	0.0
No change	30.3	21.1	18.2	30.9	27.4	37.1	40.0
Increased 1-3%	23.0	31.6	27.3	26.4	25.8	16.4	5.0
Increased 3-5%	15.5	15.8	31.8	13.6	15.3	13.2	20.0
Increased >5%	21.2	17.5	18.2	20.0	23.7	20.8	25.0
Purchases of computers by academic computing units							
Reduced >5%	4.8	0.0	0.0	2.7	5.4	8.8	0.0
Reduced 3-5%	2.3	3.6	0.0	1.8	2.7	1.9	5.0
Reduced 1-3%	2.9	12.7	0.0	1.8	1.6	2.5	0.0
No change	35.7	29.1	27.3	40.5	33.9	36.3	45.0
Increased 1-3%	19.9	29.1	27.3	17.1	18.8	20.0	15.0
Increased 3-5%	15.8	14.6	31.8	18.0	15.6	13.1	10.0
Increased >5%	18.5	10.9	13.6	18.0	22.0	17.5	25.0
All institutional purchases of desktop/notebook computers							
Reduced >5%	4.1	3.6	0.0	2.8	4.7	5.7	0.0
Reduced 3-5%	3.8	1.8	0.0	4.6	3.2	4.4	10.0
Reduced 1-3%	3.4	10.7	0.0	0.0	2.1	5.7	0.0
No change	32.0	26.8	22.7	32.1	31.1	34.0	45.0
Increased 1-3%	22.7	32.1	27.3	26.6	23.2	17.6	10.0
Increased 3-5%	14.7	12.5	36.4	17.4	15.3	10.1	15.0
Increased >5%	19.3	12.5	13.6	16.5	20.5	22.6	20.0
Network servers							
Reduced >5%	3.9	0.0	0.0	2.7	4.2	6.3	4.8
Reduced 3-5%	2.1	1.8	0.0	3.6	1.6	1.9	4.8
Reduced 1-3%	2.7	7.1	0.0	0.9	1.6	4.4	0.0
No change	35.4	33.9	27.3	29.1	36.8	39.2	33.3
Increased 1-3%	23.9	25.0	36.4	28.2	21.1	22.2	28.6
Increased 3-5%	14.3	17.9	18.2	16.4	15.8	9.5	14.3
Increased >5%	17.7	14.3	18.2	19.1	19.0	16.5	14.3
Server software & related products							
Reduced >5%	3.2	1.8	0.0	2.7	3.7	4.4	0.0
Reduced 3-5%	1.4	1.8	0.0	1.8	1.1	1.9	0.0
Reduced 1-3%	3.4	5.4	0.0	1.8	2.6	5.1	4.8
No change	34.8	35.7	31.8	26.4	38.2	36.7	28.6
Increased 1-3%	25.1	26.8	18.2	36.4	24.1	19.6	23.8
Increased 3-5%	15.0	14.3	31.8	17.3	13.6	12.0	23.8
Increased >5%	17.1	14.3	18.2	13.6	16.8	20.3	19.1
User training and support							
Reduced >5%	2.8	1.8	0.0	2.7	2.6	3.8	4.8
Reduced 3-5%	0.9	1.8	0.0	0.9	0.5	1.3	0.0
Reduced 1-3%	2.5	7.1	4.6	1.8	1.6	2.5	0.0
No change	39.1	37.5	40.9	37.3	38.5	39.0	52.4
Increased 1-3%	21.1	26.8	22.7	23.6	19.3	19.5	23.8
Increased 3-5%	14.9	10.7	9.1	16.4	18.2	13.8	4.8
Increased >5%	18.7	14.3	22.7	17.3	19.3	20.1	14.3

Percentages by campus category

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
THE TECHNOLOGY BUDGET							
Total academic computing budget 1998-99 ($$)	$ 1,655,000	$ 6,700,000	$ 5,090,000	$ 1,228,000	$ 690,000	$ 799	$ 183
Pct. institutions experiencing computing budget cut, 97-98	5.9	3.5	9.1	5.5	7.3	5.0	4.8
Percentage of budget that was cut	11.0	1.5	4.5	5.5	15.5	10.3	25.0
Percent of budget allocated to:							
Hardware	31.0	17.1	17.8	29.0	31.6	36.4	40.4
Content licenses	6.5	3.6	7.6	6.1	5.8	8.6	6.6
Software	12.0	8.4	11.6	11.3	11.3	13.9	16.7
User support	17.0	23.8	18.2	17.2	18.1	12.9	13.2
Personnel	42.1	53.3	55.6	45.0	39.7	38.5	31.4
Network service/support	14.2	15.1	20.7	14.2	15.0	12.3	12.1
Academic computing as a pct. of total institutional IT expenitures	43.5	43.1	32.4	48.8	43.6	39.6	49.3
Current replacement cycle for desktop/notebook computers (years)							
Student labs							
1 year	0.6	0.0	0.0	0.0	0.6	1.4	0.0
2 years	7.0	4.0	10.0	1.0	9.1	10.0	5.3
3 years	48.5	54.0	55.0	39.1	51.7	47.9	57.9
4 years	27.1	32.0	30.0	40.0	22.7	20.7	21.1
5 years	16.8	10.0	5.0	20.0	15.9	20.0	15.8
Faculty offices							
1 year	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 years	2.8	4.3	5.0	1.0	2.9	3.7	0.0
3 years	32.1	23.4	40.0	29.8	29.3	37.5	41.2
4 years	36.1	36.2	45.0	41.4	39.1	28.7	23.5
5 years	28.9	36.2	10.0	27.9	28.7	30.2	35.3
Administrative offices							
1 year	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 years	0.2	0.0	0.0	0.0	0.0	0.7	0.0
3 years	3.8	4.2	0.0	1.0	4.6	5.8	0.0
4 years	34.5	45.8	40.0	29.8	29.5	38.9	38.9
5 years	34.5	31.3	45.0	41.4	35.8	28.8	16.7

Means and percentages by campus category.

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
WWW AND NETWORKING ISSUES							
How important are the following issues on your campus?*							
Connecting desktop systems to share departmental or workgroup files	5.3	5.4	5.0	5.5	5.1	5.4	5.5
Connecting desktop systems to share software	5.4	5.2	5.2	5.5	5.2	5.6	5.4
Supporting instructional labs & clusters	6.1	6.3	6.0	6.3	5.9	6.3	5.6
Linking PCs to your campus library	5.6	5.9	5.6	5.9	5.3	5.6	5.8
Linking your campus with regional/national networks	5.5	6.3	5.5	5.8	5.2	5.4	5.1
Creating WWW pages for dept. use and course resources	5.8	5.9	5.8	6.2	5.7	5.6	5.4
WWW/Network access for all students	6.1	6.4	5.7	6.4	6.0	6.1	6.1
Managing dial-up access from off campus users	4.6	5.4	5.3	5.1	4.5	3.8	4.1
Network printing	5.5	5.1	5.5	5.6	5.3	5.7	5.0
Digital image libraries/archives	4.4	4.9	5.3	4.6	4.1	4.4	4.4
Creating plug & play network for notebook computer users	4.2	5.1	5.1	4.4	4.2	3.6	3.9
Network computers/thin client computing strategies	3.5	4.1	4.0	3.5	3.2	3.4	3.7
Compared to last year, network issues are							
More important	54.9	56.1	33.3	56.8	49.5	61.0	71.4
Less important	4.4	0.0	9.5	4.5	5.2	4.4	4.8
About the same	40.6	43.9	57.1	38.7	45.4	34.6	23.8
Primary medium for campus backbone/network							
Fiber	83.0	92.9	95.2	90.1	87.4	73.4	38.1
ISDN	0.9	0.0	0.0	0.9	0.5	1.9	0.0
Ethernet/Coax	8.9	1.8	4.8	7.2	5.8	15.8	19.1
Twisted pair	6.1	5.4	0.0	1.8	5.3	8.2	28.6
None	0.2	0.0	0.0	0.0	0.0	0.6	0.0
Facilities and departments with access to campus backbone/network:							
Offices/Labs/Facilities							
Central administration	95.3	94.9	95.7	100.0	95.9	95.0	66.7
Student services	93.2	93.2	95.7	99.1	92.3	93.8	61.9
Development	88.0	91.5	95.7	97.3	94.4	75.2	57.1
Budget/financial offices	94.4	93.2	95.7	100.0	95.4	93.8	61.9
Public access computer labs	86.6	94.9	91.3	96.4	91.3	78.3	66.7
Departmental computer labs	88.0	94.9	91.3	96.4	91.3	78.3	66.7
Student dormitories	57.5	83.1	91.3	70.3	81.1	10.6	28.6
Campus bookstores	73.7	76.3	73.9	78.4	73.5	75.2	38.1
Registrar	94.4	94.9	95.7	100.0	95.4	92.5	71.4
Academic departments/units							
Biological & physical sciences	89.0	93.2	95.7	96.4	90.3	85.1	47.6
Business	88.9	93.2	87.0	98.2	83.2	90.7	71.4
Education	79.4	94.9	78.3	93.7	84.2	60.9	61.9
Engineering	60.1	86.4	87.0	69.4	44.9	61.5	38.1
Fine & performing arts	77.9	91.5	91.3	85.6	82.1	65.8	42.9
Humanities	86.2	91.5	95.7	95.5	88.3	78.9	57.1
Social sciences	86.2	94.9	91.3	94.6	88.3	78.9	57.1
Main library/library system	93.9	94.9	91.3	100.0	93.4	93.2	76.2
Occupational programs	65.3	76.3	69.6	68.5	49.0	80.7	47.6
How well developed are network connections and instructional infrastructure?							
Percentage of faculty connected to the campus network/have Internet access	88.2	90.9	93.3	93.7	90.6	83.4	57.2
Percentage of classrooms connected to the campus network/have Internet access	53.6	52.0	63.3	49.5	60.3	49.8	40.3
Percentage of classrooms with fixed/permanent computer projection capacity	14.1	15.2	22.0	11.0	13.0	16.4	7.7
Percentage of dormitory beds with network connection	50.4	64.0	90.8	47.5	67.1	2.8	17.6

Mean ratings and percentages by campus category.

**Scale from 1="Not Important" to 7="Very Important".*

+Columns may not total 100% since responses are not mutually exclusive.

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities		4-Year Colleges		2-Year Colleges	
		Public	Private	Public	Private	Public	Private
WWW AND NETWORKING ISSUES (Continued)							
Current transmission capacity of your campus network							
Data							
Functional now	97.0	98.2	95.5	100.0	96.2	96.7	90.5
Coming A/Y 98-99	0.9	1.8	4.6	0.0	0.0	2.0	0.0
Scheduled for A/Y 1999-2000	1.1	0.0	0.0	0.0	1.6	1.3	4.8
Not applicable	0.9	0.0	0.0	0.0	2.2	0.0	4.8
Video							
Functional now	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coming A/Y 98-99	53.1	84.6	71.4	76.0	39.2	41.4	30.0
Scheduled for A/Y 1999-2000	10.3	5.8	0.0	11.0	9.9	14.3	5.0
Not applicable	11.6	5.8	14.3	6.0	13.5	14.3	20.0
Voice							
Functional now	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coming A/Y 98-99	58.0	88.2	81.0	71.3	49.7	46.4	35.0
Scheduled for A/Y 1999-2000	3.7	0.0	0.0	0.0	2.9	9.3	5.0
Not applicable	7.7	2.0	9.5	7.9	7.5	7.9	20.0
ATM							
Functional now	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coming A/Y 98-99	24.6	56.9	47.4	27.3	20.7	15.4	0.0
Scheduled for A/Y 1999-2000	7.4	23.5	5.3	8.1	4.3	6.2	0.0
Not applicable	11.4	9.8	5.3	15.2	6.1	16.2	11.1
Percentage of users routinely using the Internet							
At least once a week							
Undergraduates	69.4	73.4	84.9	73.3	78.0	50.8	69.4
Graduate students	62.9	81.6	75.4	73.2	62.3	13.6	18.6
Faculty	72.3	76.5	77.0	77.7	77.5	60.9	61.7
Administrators	71.0	75.6	69.8	75.2	71.9	67.5	56.7
Support staff	63.5	70.0	69.6	68.4	64.6	58.0	46.0
At lease once a day							
Undergraduates	45.1	50.3	61.1	47.7	54.1	29.1	34.0
Graduate students	40.7	56.3	53.3	45.5	39.1	8.5	11.4
Faculty	51.6	53.9	55.5	55.9	56.8	41.4	41.3
Administrators	53.2	59.9	44.7	56.8	53.6	50.5	38.3
Support staff	48.4	55.1	53.8	52.1	49.0	43.4	34.6
Does your campus charge fees for Internet access?	0.8	0.0	0.0	0.6	0.0	1.6	5.3
Which users are assessed a fee for e-mail and Internet access?							
Undergraduates	9.6	11.9	13.0	9.0	9.7	8.1	9.5
Graduate students	5.6	10.2	13.0	8.1	5.6	0.6	4.8
Faculty	1.7	3.4	8.7	3.6	0.5	0.6	0.0
Administrators	1.9	5.1	8.7	3.6	0.5	0.6	0.0
Staff	1.7	6.8	4.3	3.6	0.5	0.0	0.0

Means and percentages by campus category.

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
ORGANIZATION, PLANNING AND IMPACT ISSUES							
Is your campus part of a multicampus system with shared computing reso	44.5	58.6	27.3	57.3	19.7	64.8	28.6
Academic and administrative computing are:							
Separate units	39.4	41.4	45.5	33.0	36.8	43.0	60.0
One single unit	60.6	58.6	54.6	67.0	63.2	57.0	40.0
Has your institution reorganized IS units in past 2 years?*							
Academic computing	48.8	44.1	47.6	48.1	47.1	53.3	47.6
Administrative computing	45.0	39.0	38.1	41.5	41.3	54.5	47.6
Libraries	24.7	25.4	13.6	19.4	22.9	30.6	33.3
Do you anticipate a reorganization of IS in the next 2 years?*							
Academic computing	35.5	43.1	45.0	40.2	31.4	31.8	45.0
Administrative computing	30.5	36.8	30.0	35.6	26.5	27.3	47.6
Libraries	23.3	19.3	20.0	24.3	22.5	21.9	47.6
The heads of the academic and administrative units report to:							
Academic computing							
President	10.5	5.3	0.0	9.7	6.7	19.1	9.5
Provost	32.7	40.4	42.9	31.1	39.7	20.4	33.3
Other vice provost/vice president	41.3	49.1	57.1	46.6	41.9	33.6	33.3
Dean	15.5	5.3	0.0	12.6	11.7	27.0	23.8
Administrative computing							
President	15.3	8.8	0.0	10.7	10.7	28.2	20.0
Provost	16.6	31.6	14.3	18.5	20.2	6.7	5.0
Other vice provost/vice president	60.0	59.7	85.7	61.2	67.4	47.0	65.0
Dean	8.1	0.0	0.0	9.7	1.7	18.1	10.0
Chief academic officer is involved/interested in campus IT planning?							
Not interested-involved	2.9	3.5	5.0	1.9	4.2	1.3	4.8
Interested	25.0	29.8	50.0	18.5	22.1	26.8	28.6
Somewhat involved	25.7	28.1	30.0	35.2	27.9	17.2	14.3
Directly involved	46.4	38.6	15.0	44.4	45.8	54.8	52.4
Does institution have a chief information/technology officer?							
No	45.4	36.2	22.7	35.2	54.2	47.5	52.4
Currently under discussion	7.2	6.9	4.6	6.7	6.3	8.9	9.5
Yes	47.4	56.9	72.7	58.1	39.6	43.7	38.1
What academic and operational units report to the CIO/CTO?*							
Academic computing	43.9	54.2	69.6	56.8	38.8	34.2	38.1
Administrative computing	45.6	57.6	56.5	56.8	38.8	41.6	33.3
Libraries	13.6	18.6	8.7	10.8	13.3	14.9	14.3
Telecommunications	37.5	52.5	60.9	49.5	28.6	31.7	28.6
How does your institution deal with the "life cycle"?							
One-time allocation	21.6	32.8	9.1	18.5	14.7	28.7	28.6
Developing plan	41.1	56.9	36.4	44.4	38.7	36.9	38.1
Have plan	37.3	10.3	54.6	37.0	46.6	34.4	33.3

Means and percentages by campus category.

**Columns may not total 100% since responses are not mutually exclusive.*

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
ORGANIZATION, PLANNING AND IMPACT ISSUES (Continued)							
How well does your institution prepare students for the technology skills needed over the next decade?							
Academic field/program							
Biological and physical sciences	3.6	3.9	3.8	3.7	3.7	3.3	3.0
Business	3.9	4.2	4.2	4.0	3.8	3.9	3.8
Education	3.5	3.8	3.1	3.6	3.5	3.2	3.4
Engineering	3.9	4.6	4.3	4.0	3.9	3.7	3.1
Fine/performing arts	3.2	3.4	3.2	3.3	3.3	3.0	2.8
Humanities	3.2	3.3	3.2	3.2	3.3	3.1	3.2
Mathematics	3.7	3.8	3.8	3.8	3.8	3.6	3.3
Social science	3.3	3.5	3.7	3.3	3.5	3.1	3.2
Occupational programs	3.7	3.5	3.2	3.5	3.5	3.9	3.4
Overall campus preparation	3.6	3.7	3.6	3.6	3.6	3.6	3.4
How well prepared are faculty to use technology as a resource?							
For instruction							
Biological and physical sciences	3.5	3.7	3.5	3.4	3.6	3.3	3.4
Business	3.6	3.8	3.9	3.6	3.5	3.7	3.9
Education	3.2	3.4	2.7	3.2	3.2	3.0	3.3
Engineering	3.6	4.0	4.1	3.5	3.6	3.6	3.1
Fine/performing arts	2.9	3.0	2.9	2.9	2.9	2.9	3.1
Humanities	2.9	2.9	3.1	2.8	3.0	2.9	3.2
Mathematics	3.6	3.6	3.7	3.4	3.7	3.5	3.4
Social science	3.2	3.3	3.6	3.1	3.2	3.0	3.1
Occupational programs	3.4	3.2	3.1	3.3	3.2	3.7	3.3
Overall campus preparation	3.3	3.4	3.3	3.2	3.3	3.3	3.2
For scholarship & research							
Biological and physical sciences	3.6	4.2	4.0	3.5	3.7	3.1	3.4
Business	3.4	4.0	3.8	3.5	3.4	3.1	3.4
Education	3.1	3.5	3.2	3.3	3.1	2.7	3.1
Engineering	3.5	4.4	4.2	3.2	3.5	3.1	2.9
Fine/performing arts	2.9	3.2	3.2	2.9	3.0	2.6	3.0
Humanities	3.0	3.1	3.4	2.9	3.1	2.7	3.1
Mathematics	3.4	3.9	3.9	3.5	3.5	3.0	3.1
Social science	3.2	3.4	3.8	3.1	3.3	2.9	2.9
Occupational programs	3.1	3.3	3.2	3.1	3.1	3.1	3.1
Overall campus preparation	3.2	3.6	3.6	3.2	3.2	2.9	3.0
Internet & WWW resources							
Biological and physical sciences	3.7	4.0	3.8	3.6	3.8	3.4	3.6
Business	3.7	4.0	4.0	3.7	3.7	3.5	3.9
Education	3.3	3.7	3.2	3.4	3.3	3.0	3.6
Engineering	3.6	4.2	4.4	3.5	3.6	3.4	3.4
Fine/performing arts	3.1	3.4	3.2	3.1	3.1	2.9	3.4
Humanities	3.2	3.3	3.6	3.1	3.2	3.1	3.6
Mathematics	3.5	3.7	3.8	3.5	3.6	3.3	3.4
Social science	3.3	3.6	3.9	3.2	3.4	3.1	3.2
Occupational programs	3.5	3.6	3.4	3.4	3.4	3.5	3.4
Overall campus preparation	3.4	3.6	3.7	3.4	3.5	3.3	3.4

Means by campus category
Scale from 1="Poor" to 5="Excellent"

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Campuses	Universities Public	Universities Private	4-Year Colleges Public	4-Year Colleges Private	2-Year Colleges Public	2-Year Colleges Private
USES OF INFORMATION TECHNOLOGY							
How strongly do you agree or disagree:*							
Faculty here believe technology can enhance classes	3.0	3.0	3.0	3.0	3.0	3.1	3.1
Faculty here have unreasonable expectations about user support	2.7	2.8	2.7	2.8	2.7	2.6	2.9
Technology has improved instruction on my campus	2.8	2.8	2.9	2.8	2.7	2.9	2.9
We plan to require all students to own a computer by Fall 2001	1.8	2.0	2.1	1.9	2.0	1.5	2.1
Access to Internet 2 by Fall 1999 is essential to long-term needs	2.0	2.8	2.9	2.0	1.9	1.9	2.0
Y2K software issues pose major problems for my institution	2.2	2.5	2.2	2.1	2.1	2.2	2.2
Means by campus category. *Scale from 1="Poor" to 5="Excellent".*							
The single most important IT issue confronting my campus over the next 2-3 years:							
Access to internet	2.0	0.0	0.0	0.9	0.5	2.5	23.8
User support	26.5	31.6	14.3	27.1	24.6	30.2	9.5
Assist faculty integrate IT into instruction	33.2	22.8	28.6	37.4	42.3	25.8	23.8
Financing the replacement of aging hard/software	17.1	19.3	9.5	15.9	17.1	18.9	14.3
Expanding the campus network	8.1	7.0	14.3	5.6	8.0	8.2	19.1
Using IT effectively in distance education	4.9	5.3	9.5	8.4	2.1	5.7	0.0
Solving Y2k software problems	4.3	8.8	14.3	2.8	1.1	5.7	0.0
Restructure/reorg IT service units	4.0	5.3	9.5	1.9	4.3	3.1	9.5
Means: percentage who "strongly agree"							

Appendix A

Survey Methodology

The 1998 National Survey of Desktop Computing in Higher Education was designed to collect information about campus planning, policies, and procedures affecting the use of desktop computers (i.e., personal computers and workstations) from colleges and universities in the United States (including Alaska and Hawaii).

The 1998 questionnaire was mailed to a representative sample of 1,623 two- and four-year US colleges and universities in June, 1998. The sampling design focused on public and private two- and four-year colleges and universities, omitting the small branch campuses of multi-campus districts and some very small private two- and four-year college (i.e., institutions enrolling under 200 students).* Proprietary schools were also excluded from the survey sample.

Questionnaires were mailed to the institution's chief academic computing officer. In those instances where it was not possible to identify, by name, and individual responsible for academic or administrative computing, the survey was mailed to the chief academic officer of the institution.

A second wave of surveys were mailed to non-responding institutions late in August, 1998. A total of 571 institutions completed usable questionnaires by October 10, 1998, the closing date for data analysis. (Another 6 surveys were received after the cut-off date; these documents are not included in the data presented in this report.) The number of colleges and universities represented in the 1998 survey report, by type of institution, are shown below.

Public Research Universities	59
Private Research Universities	23
Public Four-Year Colleges	111
Private Four-Year Colleges	196
Public Two-Year Colleges	161
Private Two-Year Colleges	21

*Data from the US Department of Education reveal that 10.2 percent (363) of the nation's 3,546 two- and four-year colleges and universities enroll under 200 students. These institutions account for some 39,000 (0.3 pct.) of the nation's 15.5 million college students. In contrast, the 408 colleges and universities that enroll 10,000 or more students represent just 11.5 of the total number of US degree-granting institutions yet account for 51.1 percent of total enrollment., some 7.4 million students. (source: *Digest of Education Statistics*, US Department of Education, 1995, p. 216.)

Appendix B

The 1998 Questionnaire

CAMPUS COMPUTING, 1998

THE NATIONAL SURVEY OF INFORMATION TECHNOLOGY IN HIGHER EDUCATION

Dear Colleague:

This year marks the ninth national survey of computing and information technology. The annual Campus Computing Survey is part of a continuing national project focused on campus policies, plans, and procedures affecting academic computing in two- and four-year colleges and universities. Your responses contribute to a better understanding of the ways campuses across the country are planning for and using information technology resources to enhance instruction and scholarship.

Please take a few minutes to complete this questionnaire. All responses will be treated in a confidential manner. Thank you for your assistance.

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MAILING LABEL

Please attach a business card with the correct name, title, and mailing address of the survey respondent. Updated addresses will be used to send you a copy of the 1998 survey report.

Please respond to all questions based on institutional policies, i.e., policies that apply broadly to students, faculty, administrators and staff in all units of your institution.

A. GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTING

1. Does your campus have a formal policy promoting or mandating computers/technology resources for

curriculum utilization?	① no	② yes
undergraduates?	① no	② yes
graduate students?	① no	② yes
distance education?	① no	② yes

2. Does your institution have a *computer instruction* or *computer competency* requirement for all undergraduates?
   ① no ② yes

3. Does your institution have a special computer use fee or annual/term computer use charge for all students?
   ① no ② yes *if yes*, total annual (full-time) student fee or charge for 1998-99 |__|__|__|

4. Does your campus have a formal policy about the *confidentiality of computer data?*
   ① no ② yes

5. Please check the *Operating Systems/Interfaces* recommended or supported by your institution:

❑ Macintosh	❑ MS-DOS	❑ Windows NT
❑ UNIX	❑ Windows 3.x	❑ O/S2 Warp
❑ Solaris	❑ Windows '95	❑ *None* (My campus does not recommend a specific operating system or interface.)
❑ Linux	❑ Windows '98	

6. Does your institution *require* or *strongly recommend* computer ownership? *(please check all that apply)*

for all students	① no	② recommend	③ require
for students in specific disciplines or programs	① no	② recommend	③ require
for students in individual academic units or schools	① no	② recommend	③ require

7. Does your institution (or individual units or programs) specifically recommend a particular brand or products for

	Hardware		Software	
students?	① no	② yes	① no	② yes
faculty?	① no	② yes	① no	② yes
administrators/staff?	① no	② yes	① no	② yes

If you answered "yes" to any part of #7 please go on to #8; otherwise, please go on to #9.

8. Please check the brand(s)/kinds(s) of computer system(s) generally recommended by your institution:

Apple/Macintosh	Intel•Windows•OS/2 Compatibles	UNIX Systems	
❑ Power PC systems	❑ Pentium systems	❑ Digital (DEC)	❑ HP
❑ G-3 systems	❑ Pentium II systems	❑ IBM	❑ Silicon Graphics
		❑ Sun	
		❑ Other? _____	

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please go on to the next page ☞

B. HARDWARE AND SOFTWARE RESALE POLICIES AND PROGRAMS

9. Does your institution have a special pricing or resale agreement with one or more *hardware* vendors?
   ① no, we do not have any kind of computer resale program.
   ② no, we do not have a special discount program although we do sell computers through an on-campus facility.
   ③ yes, for hardware sold through the campus bookstore.
   ④ yes, for hardware sold through a special campus center or outlet *not* affiliated with our bookstore.
   ⑤ yes, for hardware sold by special agreement with an off-campus dealer.

10. Does your institution have a special pricing or resale agreement with one or more *software* vendors?
   ① no, we do not have a software resale program.
   ② no, we do not have a special discount program although we do sell software through an on-campus facility.
   ③ yes, for software sold through the campus bookstore.
   ④ yes, for software sold through a special campus center or outlet *not* affiliated with our bookstore.
   ⑤ yes, for software sold by special agreement with an off-campus dealer.

11. Does your institution *require* computer buyers to purchase software as part of the resale program?
   ① no ② strongly encouraged but not required ③ required

12. Does your institution have a written policy regarding the *duplication of copyrighted software/software piracy?*
   ① no ② no, but under development ③ yes (effective date:) 19|__|__|

C. ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES

13. Does your campus/institution

have a formal plan for integrating information technology into the curriculum?	① no ② yes
have one or more formal projects for developing desktop instructional software/courseware?	① no ② yes
provide any formal support or assistance (e.g., funding, release time, technical assistance) to help faculty who wish to develop *instructional* software/courseware?	① no ② yes
provide any formal support or assistance (e.g., funding, release time, technical assistance) to assist faculty who may wish to develop software to assist their *research*?	① no ② yes
have a policy or program for rewarding courseware development or providing incentives for faculty to develop instructional software/courseware?	① no ② yes
have a technology resource center that focuses on the instructional use of information technology?	① no ② yes
have one or more agreements or licenses for on-campus duplication and distribution of desktop/notebook computer software products?	① no ② yes
have a formal plan for using the Internet and WWW resources in instruction?	① no ② yes
have a formal plan for using the Internet and WWW resources in distance education?	① no ② yes
have a formal plan for using the Internet and WWW for marketing and promotion to off-campus audiences (e.g., alumni, prospective students)?	① no ② yes
have a formal program to recognize and reward the use of information technology as part of the routine faculty review and promotion process?	① no ② yes
maintain a library of academic courseware for faculty review and evaluation?	① no ② yes
have a formal program to assess the impact of IT on instruction and learning outcomes?	① no ② yes
have a formal policy regarding ownership of WWW-based curriculum resources and intellectual property developed by faculty?	① no ② yes

14. Does your institution have a strategic plan for the use of information technology?
   ① no ② currently preparing a strategic plan for IT ③ yes, we have a strategic plan

15. Has your institution established a specific *single product standard* for any of the following (i.e., your campus supports only one product):

   ① no *if yes,* O/S: ② Macintosh ③ OS/2 ④ Win 3.x ⑤ Win 95 ⑥ Win 98 ⑦ Win NT
   desktop/notebook product or manufacturer

   ① no *if yes,* product: ② Apple ③ Compaq ④ Dell ⑤ Gateway ⑥ IBM ⑦ other
   word processing

   ① no *if yes,* product: ② Microsoft Word ③ WordPerfect ④ other
   software applications suite

   ① no *if yes,* product: ② Lotus SmartSuite ③ Microsoft Office ④ WordPerfect Suite ⑤ other
   internet browser

   ① no *if yes,* product: ② Microsoft Internet Explorer ③ Netscape Navigator ④ other
   groupware

   ① no *if yes,* product: ② Lotus Notes ③ Microsoft Exchange ④ Novell Groupwise ⑤ other

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16. What academic and institutional resources and services are currently available on your campus WWW site?

- ❑ Undergraduate admissions application
- ❑ Financial aid application
- ❑ Current course catalog
- ❑ Program/major/degree requirements
- ❑ Course registration
- ❑ Course add/drop options
- ❑ E-commerce (fee payments, etc.)
- ❑ Library/card catalog
- ❑ Interlibrary loan services
- ❑ Journals & reference resources
- ❑ Course reserves
- ❑ Student transcripts
- ❑ IT support resources
- ❑ Instructional software
- ❑ Faculty/staff directory
- ❑ Student newspaper
- ❑ Student handbook
- ❑ Athletic event schedule
- ❑ Alumni information/services
- ❑ Press releases/media services
- ❑ Campus book store

D. FUTURE ISSUES AFFECTING CAMPUS COMPUTING

17. As you think about the future of computing and information technology at your institution, please indicate how *important* you see the following items in the overall campus computing/information technology environment and IT policy and planning over the next 2-3 years.

	Not Important						*Very Important*
Operating System/Interface/Development							
MS-DOS	①	②	③	④	⑤	⑥	⑦
Windows 3.x	①	②	③	④	⑤	⑥	⑦
Windows '95	①	②	③	④	⑤	⑥	⑦
Windows '98	①	②	③	④	⑤	⑥	⑦
Windows NT Server	①	②	③	④	⑤	⑥	⑦
Windows NT Desktop	①	②	③	④	⑤	⑥	⑦
Windows CE	①	②	③	④	⑤	⑥	⑦
OS/2 Warp	①	②	③	④	⑤	⑥	⑦
Macintosh O/S 8.x	①	②	③	④	⑤	⑥	⑦
Macintosh O/S X	①	②	③	④	⑤	⑥	⑦
Solaris	①	②	③	④	⑤	⑥	⑦
Unix	①	②	③	④	⑤	⑥	⑦
Linux	①	②	③	④	⑤	⑥	⑦
Hardware							
Notebook computers	①	②	③	④	⑤	⑥	⑦
Handheld computers/PDAs	①	②	③	④	⑤	⑥	⑦
Pentium CPUs	①	②	③	④	⑤	⑥	⑦
Pentium MMX CPU's	①	②	③	④	⑤	⑥	⑦
Pentium II CPU's	①	②	③	④	⑤	⑥	⑦
Macintosh computers	①	②	③	④	⑤	⑥	⑦
UNIX Workstations	①	②	③	④	⑤	⑥	⑦
Network computers (NCs)	①	②	③	④	⑤	⑥	⑦
Writable CD-ROM	①	②	③	④	⑤	⑥	⑦
DVD	①	②	③	④	⑤	⑥	⑦
PCMCIA Cards	①	②	③	④	⑤	⑥	⑦
"Smart" Cards	①	②	③	④	⑤	⑥	⑦
Digital cameras	①	②	③	④	⑤	⑥	⑦
User Support & Service							
User support & training	①	②	③	④	⑤	⑥	⑦
Charging users for services now provided at little or no cost	①	②	③	④	⑤	⑥	⑦
Upgrading aging hardware	①	②	③	④	⑤	⑥	⑦
Upgrading aging software	①	②	③	④	⑤	⑥	⑦
Providing Internet/WWW training	①	②	③	④	⑤	⑥	⑦
Online/Computer-based training	①	②	③	④	⑤	⑥	⑦
Online technical support	①	②	③	④	⑤	⑥	⑦

	Not Important						*Very Important*
Networking & Internet/WWW Issues & Resources							
Merging data & telecommunication networks	①	②	③	④	⑤	⑥	⑦
Connecting PC-LANS to campus-wide networks	①	②	③	④	⑤	⑥	⑦
Wireless networks	①	②	③	④	⑤	⑥	⑦
Electronic mail	①	②	③	④	⑤	⑥	⑦
Network fax	①	②	③	④	⑤	⑥	⑦
Lotus Notes	①	②	③	④	⑤	⑥	⑦
Lotus Domino	①	②	③	④	⑤	⑥	⑦
Microsoft Exchange	①	②	③	④	⑤	⑥	⑦
Internet/WWW Access	①	②	③	④	⑤	⑥	⑦
Netscape Navigator	①	②	③	④	⑤	⑥	⑦
Microsoft Internet Explorer	①	②	③	④	⑤	⑥	⑦
Java	①	②	③	④	⑤	⑥	⑦
ATM	①	②	③	④	⑤	⑥	⑦
Adobe Acrobat	①	②	③	④	⑤	⑥	⑦
Internet 2	①	②	③	④	⑤	⑥	⑦
Internet Videoconferencing	①	②	③	④	⑤	⑥	⑦
Network security	①	②	③	④	⑤	⑥	⑦
Educom's Institutional Mgmt. Systems (IMS) Standards	①	②	③	④	⑤	⑥	⑦
E-commerce on the WWW	①	②	③	④	⑤	⑥	⑦
Resale and Distribution							
Hardware resale contracts	①	②	③	④	⑤	⑥	⑦
Software resale licenses	①	②	③	④	⑤	⑥	⑦
Software site licensing	①	②	③	④	⑤	⑥	⑦
Content site licenses	①	②	③	④	⑤	⑥	⑦
Instructional Applications and Resources							
Developing instructional software	①	②	③	④	⑤	⑥	⑦
Using instructional software in classes	①	②	③	④	⑤	⑥	⑦
Using instructional software as a supplement to classes	①	②	③	④	⑤	⑥	⑦
Computer-based classroom presentation facilities	①	②	③	④	⑤	⑥	⑦
Internet resources for instruction	①	②	③	④	⑤	⑥	⑦
CD-ROM Libraries	①	②	③	④	⑤	⑥	⑦
WWW pages for classes	①	②	③	④	⑤	⑥	⑦

18. How would you rate the "technology infrastructure" at your institution?

	poor						*excellent*
computer networks and data communication	①	②	③	④	⑤	⑥	⑦
telecommunications and phone system	①	②	③	④	⑤	⑥	⑦
video	①	②	③	④	⑤	⑥	⑦
user support services	①	②	③	④	⑤	⑥	⑦
on-line reference resources in the campus library/library system	①	②	③	④	⑤	⑥	⑦
WWW resources to support instruction	①	②	③	④	⑤	⑥	⑦

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19. Many campuses find themselves facing enrollment shifts, reduced financial resources, and increasing costs. How is your campus addressing these issues as you view technology needs and services?

	Doing This Already	*Beginning in '98-'99 Year*	*Reviewing For '98-'99 Year*	*Decided Not To Do This*
Reducing purchases of computer technology	①	②	③	④
Charging fees to depts. and service units (e.g., networking, printing)	①	②	③	④
Charging fees to individual users (e.g., access, printing)	①	②	③	④
Requiring a computer use fee for all students	①	②	③	④
Leasing rather than buying hardware	①	②	③	④
More active recycling of older equipment to other departments and units	①	②	③	④
Vendor financing	①	②	③	④
Reducing hours in public access facilities	①	②	③	④
Reducing services (e.g., less consulting)	①	②	③	④
Reorganizing operations (e.g., combining units to coordinate staffing)	①	②	③	④
Reducing staff	①	②	③	④
Using Information Technology to reduce instructional costs	①	②	③	④
Making greater use of student assistants to address user support needs	①	②	③	④
Outsourcing Internet access to commercial providers (e.g., AOL, AT&T, MCI)	①	②	③	④
Outsourcing computing services to commercial providers	①	②	③	④

E. Strategic, Budget, and Personnel Issues

20. As you look at the future of computing on your campus, please indicate how important the following computing/ Technology issues will be in the overall campus computing environment over the next 2-3 years.

	Not Important						*Very Important*
Assessing the benefits of existing investments in computing and technology resources	①	②	③	④	⑤	⑥	⑦
Clarifying goals and campus plans for technology resources	①	②	③	④	⑤	⑥	⑦
Providing incentives and rewards for faculty to support technology integration into the curriculum	①	②	③	④	⑤	⑥	⑦
Allocating campus funds to support expanded services	①	②	③	④	⑤	⑥	⑦
Faculty concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Administrative concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Developing/strengthening vendor relationships	①	②	③	④	⑤	⑥	⑦
Charging fees to students for desktop computer access	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *hardware*	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *software*	①	②	③	④	⑤	⑥	⑦
Integrating computing services with allied service departments (for example, library services)	①	②	③	④	⑤	⑥	⑦
Expanding computer networking across the campus	①	②	③	④	⑤	⑥	⑦
Operating a computer resale program for students and faculty	①	②	③	④	⑤	⑥	⑦
Developing budget mechanisms to replace aging equipment on a routine basis	①	②	③	④	⑤	⑥	⑦
Moving applications from mainframes and minicomputers to other/smaller platforms (workstations, PCs, etc.)	①	②	③	④	⑤	⑥	⑦
Using Internet/WWW resources in instruction	①	②	③	④	⑤	⑥	⑦
Using technology-based commercial curriculum products	①	②	③	④	⑤	⑥	⑦
Using info. technology resources to enhance our distance education program	①	②	③	④	⑤	⑥	⑦
Negotiating site licensing agreements with textbook publishers	①	②	③	④	⑤	⑥	⑦
Negotiating site licensing agreements with academic publishers	①	②	③	④	⑤	⑥	⑦
Sharing digital resources with other campuses/institutions	①	②	③	④	⑤	⑥	⑦
Developing campus policies for WWW-based intellectual property	①	②	③	④	⑤	⑥	⑦

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21. Compared to last year (1997-98), how do you expect this year's budget (1998-99) to change with regard to academic computing overall, and to institutional purchases of desktop/notebook computers and network servers and software?

	Reduced ≥ 5%	*Reduced 3-5%*	*Reduced 1-3%*	*No Change*	*Increased 1-3%*	*Increased 3-5%*	*Increased >5%*
Total academic computing budget	①	②	③	④	⑤	⑥	⑦
Purchases of computers by academic computing units	①	②	③	④	⑤	⑥	⑦
All institutional purchases of desktop/notebook computers	①	②	③	④	⑤	⑥	⑦
Network servers	①	②	③	④	⑤	⑥	⑦
Server software & related products	①	②	③	④	⑤	⑥	⑦
User training and support	①	②	③	④	⑤	⑥	⑦

22. Did your budget for academic computing experience a mid-year cut during 1997-98?
① no ② yes *If yes*, by what percentage? |__|__|%

23. What is the total Academic Computing budget for 1998-99? $ |__|__|, |__|__|__|, |__|__|__|

24. Allocation of the IT/Academic Computing Budget (estimated percentages; numbers may not equal 100% because of the overlap of categories, such as personnel and user support):

|__|__|% hardware |__|__|% software |__|__|% personnel
|__|__|% content licenses |__|__|% user support |__|__|% network service/support

25. The Academic Computing Budget for this campus represents what percentage of *total* institutional expenditures on information technology/academic computing? |__|__|__| percent

26. Current replacement cycle for institutionally-owned desktop & notebook computers (number of years):
student labs ① ② ③ ④ ⑤ faculty offices ① ② ③ ④ ⑤ administrative offices ① ② ③ ④ ⑤

F. WWW AND NETWORKING ISSUES

27. How important are the following issues in discussions about and planning for networking on your campus?

	Not Important						*Very Important*
Connecting desktop systems to share departmental or workgroup files	①	②	③	④	⑤	⑥	⑦
Connecting desktop systems to share software resources	①	②	③	④	⑤	⑥	⑦
Supporting instructional labs and clusters	①	②	③	④	⑤	⑥	⑦
Linking PCs to your library system	①	②	③	④	⑤	⑥	⑦
Linking your campus with regional or national networks	①	②	③	④	⑤	⑥	⑦
Creating WWW pages for department use and course resources	①	②	③	④	⑤	⑥	⑦
WWW/Network access for all students	①	②	③	④	⑤	⑥	⑦
Managing demand for dial-up access from off-campus users	①	②	③	④	⑤	⑥	⑦
Network printing	①	②	③	④	⑤	⑥	⑦
Digital image libraries/archives	①	②	③	④	⑤	⑥	⑦
Creating a "plug & play" network for notebook computer users	①	②	③	④	⑤	⑥	⑦
Network computers/"thin client" computing strategies	①	②	③	④	⑤	⑥	⑦

28. Would you say that network issues are more or less important than last year, or about the same?
① More important ② Less important ③ About the same

29. What is the primary medium for your campus backbone/network?
① Fiber ② ISDN ③ Ethernet/Coax ④ Twisted Pair ⑤ Other:_____ ⑥ none

30. What facilities and departments on your campus have access to the campus backbone/network?

Offices/Labs/Facilities
- ❑ Central Administration
- ❑ Student Services
- ❑ Development
- ❑ Budget/Financial offices
- ❑ Public Access Computer Labs
- ❑ Departmental Computer Labs
- ❑ Student Dormitories
- ❑ Campus Bookstore
- ❑ Registrar

Academic Departments/Units
- ❑ Biological & Physical Sciences
- ❑ Business
- ❑ Education
- ❑ Engineering
- ❑ Fine & Performing Arts
- ❑ Humanities
- ❑ Social Sciences
- ❑ Main Library/Library system
- ❑ Occupational Programs

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31. How well-developed are your institutional network connections and instructional infrastructure?
    - |__|__| percentage of faculty offices that are connected to the campus network/have Internet access?
    - |__|__| percentage of classrooms that are connected to the campus network/have Internet access?
    - |__|__| percentage of classrooms that have fixed/permanent computer projection capacity?
    - |__|__| percentage of dormitory beds that have a network connection ("wire to the pillow")?

32. What is the current transmission capacity of your campus network?

data	① functional now	② coming A/Y 1998-99	③ scheduled for A/Y 1999-00	④ not applicable
video	① functional now	② coming A/Y 1998-99	③ scheduled for A/Y 1999-00	④ not applicable
voice	① functional now	② coming A/Y 1998-99	③ scheduled for A/Y 1999-00	④ not applicable
ATM	① functional now	② coming A/Y 1998-99	③ scheduled for A/Y 1999-00	④ not applicable

33. What's your best estimate of the percentage of campus users who routinely use the Internet?

	at least once a week	at least once a day
undergraduates?	|__|__|__| %	|__|__|__| %
graduate students	|__|__|__| %	|__|__|__| %
faculty	|__|__|__| %	|__|__|__| %
administrators	|__|__|__| %	|__|__|__| %
support staff	|__|__|__| %	|__|__|__| %

34. Does your campus charge fees for Internet access?
    ① no (skip to #36) ② yes

35. Which users are assessed a fee for E-mail and Internet access?
    - ❑ Undergraduate students
    - ❑ Graduate students
    - ❑ Faculty
    - ❑ Administrators
    - ❑ Staff

G. VENDOR ASSESSMENT

36. What is your assessment of the companies that sell desktop (i.e., personal computers, notebooks, and workstation) systems and software to the higher education market?

Ratings: ① Strongly Disagree (SD) ② Disagree ③ Agree ④ Strongly Agree (SA)

	My Campus Currently Does Business With This Company	*Has Appropriate Products for Campus Users* SD D A SA	*Understands Computing Issues Affecting My Campus* SD D A SA	*Will Play an Important Role in our Computing Plans for the Next 2-3 Years* SD D A SA
Hardware Companies				
Acer	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Apple	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Compaq (including DEC)	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Dell	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Gateway 2000	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Hewlett Packard (HP)	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
IBM	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Micron	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Silicon Graphics	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Sun Microsystems	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Toshiba	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Software, Networking, and Telecommunications Companies				
Academic Systems	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Adobe Systems	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Ascend Communications	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Cisco Systems	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Collegis	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Computer Associates	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Corel	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Lotus Development Corp.	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Lucent Technologies	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Macromedia	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Microsoft	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Netscape	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Novell	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Oracle	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
PeopleSoft	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
SCT	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
Symantec	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④
3 Com	❑	① ② ③ ④	① ② ③ ④	① ② ③ ④

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H. ORGANIZATION, PLANNING, AND IMPACT ISSUES

37. Is your campus part of a multicampus system with shared computing resources: ① no ② yes

38. Academic and administrative computing on your campus are: ① separate units ② one single unit

39. Has your institution reorganized information services units within the past two years?
Academic Computing ① no ② yes Administrative Computing ① no ② yes Libraries ① no ② yes

40. Do you anticipate a reorganization of information services units within the next two years?
Academic Computing ① no ② yes Administrative Computing ① no ② yes Libraries ① no ② yes

41. How does your campus coordinate academic and administrative computing operations? The heads of each unit report to:

Academic Computing	*Administrative Computing*
① president	① president
② provost (chief academic officer)	② provost (chief academic officer)
③ other vice provost/vice president	③ other vice provost/vice president
④ dean	④ dean

42. Is your chief academic officer directly involved (or interested) in campus planning for instructional technology?
① not interested or involved ② interested ③ somewhat involved ④ directly involved

43. Does your institution have a chief information officer/chief technology officer (CIO/CTO)?
① no (go to #45) ② no, but currently under discussion (go to #45) ③ yes (to go #44)

44. What academic and operational units report to the CIO/CTO?
☐ academic computing ☐ administrative computing ☐ libraries ☐ telecommunications

45. How does your institution deal with the "life cycle" issues affecting the institutional purchase (and upgrading/replacement) of desktop computers for faculty, classrooms, clusters, and labs?
① Most institutional purchases of desktop systems are acquired through a special one-time allocation or appropriation.
② Although we generally purchase equipment on a one-time allocation, we are developing a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.
③ We have a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.

46. From your perspective, how well does your institution prepare your students (i.e., undergraduates) for the technology skills they will need and technology challenges they will encounter over the next decade?

Academic Field/Program	Poor				Excellent
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
mathematics	①	②	③	④	⑤
social science	①	②	③	④	⑤
occupational programs	①	②	③	④	⑤
Overall Campus Preparation	①	②	③	④	⑤

47. From your perspective, how well prepared are the faculty at your institution to use technology as a resource for instruction and scholarship? To use the Internet and the WWW as a resource for curriculum and instruction?

	For Instruction Poor				Excellent	*For Scholarship & Research* Poor				Excellent	*Internet & WWW Resources* Poor				Excellent
biological & physical sciences	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
business	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
education	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
engineering	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
humanities	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
mathematics	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
social science	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
occupational programs	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤
Overall Campus Preparation	①	②	③	④	⑤	①	②	③	④	⑤	①	②	③	④	⑤

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I. USES OF INFORMATION TECHNOLOGY

48. Please indicate the degree to which you agree or disagree with the following statements.
Ratings: ① Strongly Disagree (SD) ② Disagree ③ Agree ④ Strongly Agree (SA)

	SD	D	A	SA
Faculty here believe technology can enhance their classes and student learning.	①	②	③	④
Faculty have unreasonable expectations about user support services.	①	②	③	④
Technology has done much to improve instruction on my campus.	①	②	③	④
We plan to require all our students to own a computer by Fall 2001.	①	②	③	④
Access to Internet 2 by Fall 1999 is essential to our long-term technology needs.	①	②	③	④
Year 2000 (Y2K) software issues pose major problems for my institution.	①	②	③	④

49. The *single most important* information technology issue confronting my institution over the next two or three years is: *(mark only one)*

① Providing universal access to the Internet
② Providing adequate user support
③ Assisting faculty integrate technology into instruction
④ Financing the replacement of aging hardware/software
⑤ Expanding/enhancing the campus network
⑥ Using IT effectively in distance education
⑦ Solving Year 2000 (Y2K) software problems
⑧ Restructuring/reorganizing IT service units (computing, libraries, etc.).

J. CURRENT COMPUTER FACILITIES AND RESOURCES

50. What was the total *headcount* enrollment on your campus as of Spring 1998? |__|__|__|__|__|

51. What is your *best estimate* of the total number of *institutionally-owned* desktop computers and workstations on your campus as of May, 1998? (Please include systems in faculty offices and in labs, clusters, classrooms, residence halls, etc.)
Desktop/notebook computers |__|__|__|__|__| Unix Workstations |__|__|__|__|__|

52. What is your *best estimate* of the percentage of institutionally-owned machines (in both offices and campus labs) that are connected to your campus network or a department network? |__|__|__|%

53. What is your *best estimate* of the total number of *personally-owned* desktop and notebook computers used on your campus as of May, 1998? (Include personally purchased systems owned by students and faculty.) |__|__|__|__|__|

54. What is your *best estimate* of the proportion of individuals in your campus community who have or own desktop or notebook computers? % students |__|__|__| % faculty |__|__|__| % administrators/staff |__|__|__|

55. Estimated total number of desktop/notebook computers (PCs and workstations) purchased by:

	1997-98	1998-99
students	|__|__|__|__|	|__|__|__|__|
faculty (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
administrators/staff (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
campus labs, clusters & other instructional use	|__|__|__|__|	|__|__|__|__|

56. Total number of *desktop computer labs, clusters,* and *classrooms* on your campus as of May, 1998? |__|__|__|

57. How many of these computer labs/clusters/classrooms are specifically dedicated for use by individual departments or units (e.g., writing program, engineering, social science)? |__|__|__|

58. Total number of *desktop computers and workstations* in *all* the labs/classrooms/clusters on your campus as of May, 1998? Desktop Computers |__|__|__|__|__| Unix Workstations |__|__|__|__|__|

59. Total number of network servers on your campus? |__|__|__|__|

60. What is your *best estimate* (percentage) of the operating systems now installed on institutionally-owned desktop/notebook computers and network servers? (*example*: 20 pct. of the computers are running Mac O/S, 80 pct. use Win 95.)
computers/clients: % Mac |__|__| Win 3x |__|__| Win 95 |__|__| Win 98 |__|__| Win NT |__|__| Unix |__|__|
network servers: % Mac |__|__| Win NT |__|__| O/S 2 |__|__| Unix |__|__| Linux |__|__| Novell |__|__|

61. Total number (FTE) of IT help desk/technical support personnel (incl. departmental staff)? |__|__|__|

62. What is your *best estimate* of the proportion/percentage of classes that use the following information technology resources:

|__|__|__| computer-based classrooms or labs
|__|__|__| computer-based simulations or exercises
|__|__|__| presentation handouts
|__|__|__| CD-ROM-based materials
|__|__|__| electronic mail
|__|__|__| commercial courseware
|__|__|__| interactive data analysis and display
|__|__|__| multimedia
|__|__|__| Internet resources (from off-campus sources)
|__|__|__| WWW pages for class materials & resources

THANK YOU FOR YOUR ASSISTANCE!
PLEASE FOLD AND MAIL IN THE ENCLOSED POSTAGE-PAID ENVELOPE

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Appendix C

Campuses Participating in the 1998 Campus Computing Survey

Abilene Christian University, TX
Adams State College, CO
Alabama Southern Comm. College, AL
Albertson College College of Idaho, ID
Albertus Magnus College, CT
Albion College, MI
Albright College, PA
Allegany College of Maryland, MD
Allen County Community College, KS
Alvernia College, PA
American River College, CA
Amherst College, MA
Anderson University, IN
Anderson-Broaddus College, WV
Angelina College, TX
Anson Community College, NC
Aquinas College, MA
Ardmore Higher Education Center, OK
Arkansas State University, AR
Ashland University, OH
Atlantic Community College, NJ
Auburn University-Main Campus, AL
Augusta State University, GA
Augustana College, SD
Averett College, VA

Baker College, MI
Ball State University, IN
Barry University, FL
Barstow College, CA
Bartlesville Wesleyan College, OK
Belmont Abbey College, NC
Belmont Technical College, OH
Beloit College, WI
Bemidji State University, MN
Benedict College, SC
Benedictine College, KS
Benedictine University, IL
Berea College, KY
Berkshire Community College, MA
Berry College, GA
Bethany College, KS
Bethany Lutheran College, MN
Bethel College, MN
Birmingham Southern College, AL
Black Hawk College, IL
Blackhawk Technical College, WI
Bladen Community College, NC
Blue Mountain College, MS
Bluefield College, VA
Bluefield State College, WV
Bowdoin College, ME
Bowling Green State University, OH
Bradley University, IL
Brazosport College, TX
Brescia College, KY
Brevard Community College, FL
Bridgewater State College, MA
Brigham Young University, UT
Broome Community College, NY
Brown University, RI
Brunswick College, GA
Brunswick Community College, NC
Bryan College, TN
Bucknell University, PA

Cabrillo College, CA
Calif Polytechnic State Univ-Pomona, CA
Calif State Univ-Chico, CA
Calif State Univ-Hayward, CA
Calif State Univ-Los Angeles, CA
Calif State Univ-San Marcos, CA
Calif State University, Bakersfield, CA
Calif State University, Sacramento, CA
California Lutheran University, CA
Cameron University, OK
Campbellsville College, KY
Canisius College, NY
Carl Albert State College, OK
Carnegie Mellon University, PA
Casper College, WY
Catawba College, NC
Cazenovia College, NY
Cedarville College, OH
Central Connecticut State University, CT
Central Missouri State University, MO
Central Virginia Community College, VA
Chadron State College, NE
Chapman University, CA
Chowan College, NC
Cisco Junior College, TX
Clarkson College, NE
Cleveland Community College, NC
Cleveland State Community College, TN
Coastline Community College, CA
Cochise College, AZ
Coffeyville Community College, KS
Colby-Sawyer College, NH
Colgate University, NY
College for Lifelong Learning, NH
College Misericordia, PA
College of Aeronautics, NY
College of Mount St. Joseph, OH
College of Saint Benedict, MN
College of St. Catherine, MN
College of St. Scholastica, MN
College of St. Thomas, MN
College of The Albemarle, NC
College of The Holy Cross, MA
College of Wooster, OH
Columbia College, MO
Columbus State Community College, OH
Community College of Rhode Island, RI
Concordia College, AL
Concordia College, MN
Concordia College, NY
Connors State College, OK
Copiah-Lincoln Community College, MS
Cornell College, IA
Corning Community College, NY
Crafton Hills College, CA
Creighton University, NE
CSU-Humboldt State University, CA
Cumberland University, TN
CUNY, City College , NY
Cuyahoga Community College, OH
Cypress College, CA

D'Youville College, NY
Daniel Webster College, NH
Dartmouth College, NH
Davidson College, NC
Dean College, MA
Delaware Technical and Community College, Terry Campus, DE
Denison University, OH
DePaul University, IL
Dodge City Community College, KS
Duquesne University, PA

East Central University, OK
East Tennessee State University, TN
Eastern Connecticut State University, CT
Eastern Mennonite College, VA
Eastern Okla. State College, OK
Eastern Wyoming College, WY
Eckerd College, FL
Edinboro University of Pennsylvania, PA
El Paso Community College, TX
Ellsworth Community College, IA
Emmanuel College, GA
Emory & Henry College, VA
Evergreen State College, WA

Fairmont State College, WV
Fergus Falls Community College, MN
Finger Lakes Community College, NY
Florence-Darlington Tech. College, SC
Florida Atlantic University, FL
Florida International University, FL
Florida State University, FL
Fordham University, NY
Forsyth Technical Comm. College, NC
Fort Berthold Comm. College, ND
Fort Scott Comm. College, KS
Franklin and Marshall College, PA
Franklin Pierce College, NH
Frederick Community College, MD
Freed-Hardeman College, TN
Front Range Community College, CO
Frostburg State University, MD

Gasden State Community College, AL
Gaston College, NC
Gavilan College, CA
Genesee Community College, NY
George Mason University, VA
Georgetown College, KY

Georgetown University, DC
Georgia College and State University, GA
Georgia Institute of Technology, GA
Gonzaga University, WA
Gordon College, MA
Grace College, IN
Graceland College, IA
Grand Valley State University, MI
Grays Harbor College, WA
Green Mountain College, VT
Grinnell College, IA
Grove City College, PA
Guilford College, NC
Gustavus Adolphus College, MN
Gwynedd-Mercy College, PA

Hamilton College, NY
Harris-Stowe State College, MO
Harrisburg Area Community College, PA
Hartwick College, NY
Hastings College, NE
Haverford College, PA
Hawkeye Community College, IA
Haywood Community College, NC
Hendrix College, AR
Herkimer County Community College, NY
Hilbert College, NY
Horry-Georgetown Technical College, SC
Howard College -- SWCID, TX
Howard Community College, MD
Huntingdon College, AL

Illinois State University, IL
Indiana State University, IN
Indiana U-Purdue U at Indianapolis, IN
Indiana University at Kokomo, IN
Indiana University Southeast, IN
Indiana Vocational Technical College-Lafayette, IN
Iowa Lakes Community College, IA
Ithaca College, NY
Ivy Tech State College, IN

Jacksonville State University, AL
Jarvis Christian College, TX
Jefferson College, MO
Jefferson State Junior College, AL
John Brown University, AR
John C. Calhoun State Community College, AL
Johnson & Wales University, RI

Kankakee Community College, IL
Kansas State University, KS
Kaskaskia College, IL
Keene State College, NH
Kenyon College, OH

Lafayette College, PA
Lake Forest College, IL
Lake Michigan College, MI
Lake Washington Technical College, WA
Lakeshore Technical College, WI
Lander University, SC
Langston University, OK
Lawrence Technologal University, MI
Lees-McRae College, NC
Lehigh University, PA
Lindsey Wilson College, KY
Longwood College, VA
Los Angeles Mission College, CA
Louisiana College, LA
Louisiana State University at Eunice, LA
Louisiana Tech University, LA
Loyola University of Chicago, IL

Macalester College, MN
Madonna University, MI
Manchester College, IN
Mansfield University of Pennsylvania, PA
Maranatha Baptist Bible College, WI
Martin Luther College, MN
Mary Washington College, VA
Marylhurst College, OR
Master's College, CA
Mayville State University, ND
McCurtain County Higher Education Program, OK
Memphis College of Art, TN
Merced College, CA
Mid-State Technical College, WI
Middle Tennessee State University, TN
Middlebury College, VT
Milligan College, TN
Mississippi College, MS
Mississippi Delta Junior College, MS
Missouri Southern State College, MO
Montana State University, MT
Montana State University, Billings, MT
Montana Tech, MT
Moravian College, PA
Morton College, IL
Mount Wachusett Comm. College, MA
Mt. San Antonio College, CA
Mt. San Jacinto College, CA
Murray State College, OK
Murray State University, KY
Muskingum College, OH

Nash Community College, NC
Navarro College, TX
Nebraska College of Business, NE
NEI College of Technology, MN
Neosho County Community College, KS
New College, Univ. of South Florida, FL
New England College, NH
New Hampshire College, NH
New Mexico State University, NM
New Mexico State University-Alamogordo, NM
New Mexico State Univ.- Carlsbad, NM
North Carolina A & T State Univ., NC
North Dakota State University, ND
North Lake College, TX
Northampton County Area Community College, PA
Northcentral Technical College, WI
Northeastern Oklahoma A&M College, OK
Northeastern State University, OK
Northern Arizona University, AZ
Northern Kentucky University, KY
Northern Michigan University, MI
Northern Oklahoma College , OK
Northwest Missouri State University, MO
Northwest Nazarene College, ID
Northwestern Oklahoma State Univ., OK
Northwestern State Univ. of Louisiana, LA

Oberlin College, OH
Occidental College, CA
Ohio Northern University, OH
Ohio State University, OH
Okla. State University - Okmulgee, OK
Okla. State Univ., Oklahoma City, OK
Okla. State Univ. College of Osteopathic Medicine, OK
Okla. State Univ. College of Medicine, Tulsa, OK
Oklahoma Baptist University, OK
Oklahoma City Community College, OK
Oklahoma Panhandle State University, OK
Oklahoma State University, OK
Olivet Nazarene University, IL
Oregon Institute of Technology, OR
Oregon State University, OR

Pacific Lutheran University, WA
Palm Beach Atlantic College, FL
Pan American University, TX
Paris Junior College, TX
Pasadena City College, CA
Pasco-Hernando Community College, FL
Pennsylvania State University Allentown Campus, PA
Pennsylvania State University Wilkes-Barre Campus, PA
Perimeter College, GA
Piedmont Technical College, SC
Pittsburg State University, KS
Pitzer College, CA
Plymouth State College, NH
Polytechnic University, Farmingdale Campus, NY
Potomac State College of West Virginia University, WV
Princeton University, NJ

Queen of the Holy Rosary College, CA

Randolph-Macon College, VA
Randolph-Macon Woman's College, VA
Rappahannock Community College, VA
Redlands Community College, OK
Reed College, OR
Reinhardt College, GA
Rice University, TX
Richard Bland College, VA
Ridgewater College, MN
Riverland Community College, MN
Roane State Community College, TN
Robert Morris College, Chicago, IL
Rochester Institute of Technology, NY
Rockhurst College, MO
Rogers University, OK
Rose State College, OK
Rowan University, NJ
Rutgers University-New Brunswick, NJ

Saginaw Valley State University, MI
Saint Anselm College, NH
Saint Augustine College, IL
Saint Charles County Comm. College, MO
Saint Francis College, PA
Saint John's University, MN
Saint Leo College, FL
Saint Martin's College, WA
Saint Mary-of-the-Woods College, IN
Saint Michael's College, VT
Salem-Teikyo University, WV
San Jacinto College-South Campus, TX
San Jose State University, CA
San Juan College, NM
Santa Clara University, CA
Scripps College, CA
Seattle Central Community College, WA
Seminole Community College, FL
Seminole Junior College, OK
Seton Hall University, NJ
Shimer College, IL
Shippensburg Univ. of Pennsylvania, PA
Shoreline Community College, WA
Silver Lake College, WI
Skagit Valley College, WA
Skidmore College, NY
Snead State Junior College, AL
Sonoma State University, CA
South Plains College, TX
South Puget Sound Comm. College, WA
Southeast Community College, NE
Southeastern Baptist Theological Seminary, NC
Southeastern College, FL
Southeastern Illinois College, IL
Southeastern Louisiana University, LA
Southeastern Oklahoma State Univ., OK
Southern Illinois Univ-Carbondale, IL
Southern Illinois University at Edwardsville, IL
Southern Nazarene University, OK
Southern Polytechnic State Univ., GA
Southern Wesleyan University, SC
Southwest Missouri State University, MO
Southwest Texas State University, TX
Southwestern Oklahoma State Univ., OK
Spokane Falls Community College, WA
St. John's College, NM
St. Joseph's College, NY
St. Louis Comm. College at Meramec, MO
St. Louis University, MO
St. Mary's University of San Antonio, TX
St. Olaf College, MN
St. Thomas University, FL
Standing Rock College, ND
Stephens College, MO
Sterling College, KS
Stockton State College, NJ
Stonehill College, MA
Sullivan County Community College, NY
SUNY College at Brockport, NY
SUNY College at Geneseo, NY
SUNY College at Plattsburgh, NY
SUNY College at Potsdam, NY
SUNY-Albany, NY
SUNY-Buffalo, NY
Suomi College, MI
Susquehanna University, PA
Sweet Briar College, VA
Syracuse University, NY

Tacoma Community College, WA
Taft College, CA
Tarleton State University, TX
Temple Junior College, TX
Tennessee Technological University, TN
Tennessee Temple University, TN
Terra State Community College, OH
Texas A&M University, TX
Texas A&M University, Commerce, TX
Texas A&M University, Texarkana, TX
Ohio State University, OH
Thomas College, ME
Tidewater Community College, Portsmouth Campus, VA
Transylvania University, KY
Tri-County Community College, NC
Tri-County Technical College, SC
Tri-State University, IN
Trinity College, CT
Trinity International University, IL
Trinity University, TX
Troy State University at Dothan, AL
Truman State University, MO
Tulsa Community College, OK
Tusculum College, TN

Umpqua Community College, OR
Union County College, NJ
Union University, TN
United States Coast Guard Academy, CT
United States Naval Academy, MD
University of Alaska CCREE, AK
University of Alaska Fairbanks, Northwest College Campus, AK
University of Alaska, Prince William Sound Community College, AK
University of Arizona, AZ
University of Arkansas at Monticello, AR
University of Arkansas at Pine Bluff, AR
University of Arkansas-Little Rock, AR
University of Baltimore, MD
University of Calif., Santa Barbara, CA
University of Central Florida, FL
University of Central Oklahoma, OK
University of Central Texas, TX
University of Charleston, WV
University of Cincinnati-Main, OH
University of Dayton, OH
University of Denver, CO
University of Evansville, IN
University of Florida, FL
University of Georgia, GA
University of Hartford, CT
University of Hawaii, HI
University of Hawaii-Leeward Community College, HI
University of Hawaii-West Oahu, HI
University of Hawaii-Windward Community College, HI
University of Houston-Clear Lake, TX
University of Houston-Downtown, TX
University of Idaho, ID
University of Illinois Urbana, IL
University of Iowa, IA
University of Kansas, KS
University of Kentucky, Madisonville Community College, KY
University of Maine at Fort Kent, ME
University of Maine at Presque Isle, ME
University of Mary Hardin-Baylor, TX
University of Michigan, MI
University of Minnesota, Duluth, MN
University of Minnesota, Morris, MN
University of Montana, MT
University of New Hampshire at Manchester, NH
University of New Mexico, NM
University of New Mexico-Valencia Campus, NM
Univ. of North Carolina-Chapel Hill, NC
Univ. of North Carolina-Greensboro, NC
Univ. of North Dakota-Lake Region, ND
University of North Texas, TX
University of Northern Iowa, IA
University of Notre Dame, IN
University of Oklahoma, OK
Univ.of Oklahoma, Health Science Center., OK
University of Oregon, OR
University of Pennsylvania, PA
University of Pittsburgh at Titusville, PA
University of Puget Sound, WA
University of Redlands, CA
University of Rhode Island, RI
University of Richmond, VA
University of Rio Grande, OH
University of San Diego, CA
University of San Francisco, CA
University of Science and Arts of Oklahoma, OK
University of Scranton, PA
University of South Carolina at Spartanburg, SC
University of South Carolina at Union, SC
University of South Dakota, SD
University of Southern California, CA
University of Southern Colorado, CO
University of Southwestern Louisiana, LA
University of Tenn. -Chattanooga, TN
University of Texas at Austin, TX
University of Texas-Arlington, TX
University of the Ozarks, AR
University of Utah, UT
University of Vermont, VT
University of Virginia-Main Campus, VA
University of Washington, Tacoma, WA

University of Wisconsin Center-Manitowoc County, WI
University of Wisconsin Center- Marinette County, WI
University of Wisconsin Center-Sheboygan County, WI
Univ. of Wisconsin-Eau Claire, WI
Univ. of Wisconsin-Green Bay, WI
Univ. of Wisconsin-La Crosse, WI
Univ. of Wisconsin-Madison, WI
Univ. of Wisconsin-Stevens Point, WI

Valparaiso University, IN
Vanderbilt University, TN
Vassar College, NY
Ventura College, CA
Villa Maria College of Buffalo, NY
Villanova University, PA
Vincennes University, IN
Virginia Intermont College, VA
Virginia Military Institute, VA
Virginia Polytechnic Institute & State University, VA
Virginia Wesleyan College, VA

Wake Forest University, NC
Waldorf College, IA
Warner Southern College, FL
Warren Wilson College, NC
Wartburg College, IA
Washington and Lee University, VA
Waubonsee Community College, IL
Wayne State University, MI
Weber State College, UT
Webster University, MO
Wellesley College, MA
Wentworth Military Academy and Junior College, MO
West Texas A&M University, TX
West Valley College, CA
Western Carolina University, NC
Western Maryland College, MD
Western New England College, MA
Western Oklahoma State College, OK
Western Oregon State College, OR
Western Piedmont Comm. College, NC
Western State College of Colorado, CO
Western Texas College, TX
Western Washington University, WA
Westfield State College, MA
Westminster College, PA
Westmont College, CA
Whatcom Community College, WA
Wheaton College, MA
Wheaton College, Il
Wheeling Jesuit College, WV
Whitman College, WA
Wichita State University, KS
Willamette University, OR
William Penn College, IA
Wilmington College, OH
Wood College, MS
Woodbury University, CA

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